National Energy Board | Office national de l'énergie

Reasons for Decision

Murphy Oil Company Ltd.

GH-1-2001

March 2001

Facilities

101-03475/

National Energy Board

Reasons for Decision

In the Matter of

Murphy Oil Company Ltd.

Chinchaga Sales Gas Pipeline Loop

GH-1-2001

March 2001

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Table of Contents

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Table of Contents

Abbreviations and Definitions iii

Recital and Appearances v

1. Introduction 1

2. Facilities Description and Engineering Matters 4

3. Public Consultation 7

4. Environmental, Land and Socio-Economic Matters 9
4.1 Environmental Matters 9
4.2 Land Matters 9
4.3 Socio-Economic Matters 10

5. Financial Matters, Tolls, Tariffs and Transportation 12
5.1 Financial Matters 12
5.2 Tolls, Tariffs and Transportation 12
5.3 Method of Regulation 12

6. Economic Feasibility and Public Interest 14
6.1 Markets 14
6.2 Supply 15
6.3 Public Interest 16

7. Disposition 20

List of Figures

1-1 Chinchaga Sales Gas Pipeline Loop 3

List of Appendices

I List of Issues 21
II 22 February 2001 Decision from the Bench 22
III ORDER XG-M085-08-2001 26
IV CEAA Screening Report 29

Abbreviations and Definitions

Apache	Apache Canada Ltd.
ALFS	Alberta Land and Forest Service
Baytex	Baytex Energy Ltd.
BC	British Columbia
BC MEM	British Columbia Ministry of Energy and Mines
BC OGC	British Columbia Oil and Gas Commission
Bcf	billion cubic feet
Beau Canada	Beau Canada Exploration Ltd.
Board (or NEB)	National Energy Board
CEAA	*Canadian Environmental Assessment Act*
Chinchaga Loop	Chinchaga Sales Gas Pipeline Loop
CSA Z662-99	*Canadian Standards Association Standard Z662-99 Oil and Gas Pipeline Systems*
EPN	Early Public Notification
GFR	*Guidelines for Filing Requirements*, 22 February 1995
GH-3-2000	NEB Decision dated 22 December 2000 on an application dated 19 July 2000 by Ricks Nova Scotia Co. for the Ladyfern Pipeline Project
H_2S	hydrogen sulphide
HDD	horizontal directional drill
km	kilometre(s)
kPag	kilopascals (gauge)
mm	millimetres
MMcf/d	million cubic feet per day
MOG	*Memorandum of Guidance on the Regulation of Group 2 Companies*, dated 6 December 1995

Murphy (or the Applicant)	Murphy Oil Company Ltd.
NEAT	North East Aboriginal Trappers Society
NEB Act	*National Energy Board Act*
NGTL	NOVA Gas Transmission Ltd. or TransCanada Pipelines Ltd.
NPS	nominal pipe size (in inches)
OPR-99	*Onshore Pipeline Regulations, 1999*
PNRC	Pioneer Natural Resources Canada Inc.
ppm	parts per million
Predator	The Predator Corporation Ltd.
psig	pounds per square inch (gauge)
Ricks	Ricks Nova Scotia Co.
$10^3m^3/d$	thousand cubic metres per day
10^6m^3	million cubic metres

Recital and Appearances

IN THE MATTER OF the National Energy Board Act and the Regulations made thereunder; and

IN THE MATTER OF an application dated 30 October 2000 by Murphy Oil Company Ltd. (Murphy) to construct the Chinchaga Sales Gas Pipeline Loop; and

IN THE MATTER OF Hearing Order GH-1-2001;

HEARD in Calgary, Alberta on 15,16,17 and 19 February 2001;

DECIDED by the Board from the Bench in Calgary, Alberta on 22 February 2001;

BEFORE:

J.S. Bulger	Presiding Member
J.P. Théorêt	Member
E. Quarshie	Member

Appearances		Witnesses
C.K. Yates M. Buchinski	Murphy Oil Company Ltd.	A. Sun, H. Doerr, C. Buchanan, J. Ernst, J. Wright, D. Verdonck, R. Nodwell, R. Haynes, R. Mackenzie
M. Sawyer	Mr. Lee Morin	L. Morin
R.J. Behn	North East Aboriginal Trappers Society	R. J. Behn
L.G. Keough S. Young	AEC Marketing	
K. Miller	Apache Canada Ltd.	
J. Davidson	NOVA Gas Transmission Ltd.	
G. Fitch	The Predator Corporation Ltd.	
C.J.C. Page	Province of Alberta	
L.A. Boychuk C. Beauchemin	National Energy Board	

Chapter 1

Introduction

On 30 October 2000, Beau Canada Exploration Ltd. (Beau Canada) applied to the National Energy Board (the Board or NEB) pursuant to section 58 of the *National Energy Board Act* (NEB Act) for an exemption from the requirements of sections 29 to 33 and 47 of the NEB Act in respect of the proposed Chinchaga Sales Gas Pipeline Loop (Chinchaga Loop). The Chinchaga Loop would be approximately 17.2 km in length. The proposed pipeline would commence at the existing Pioneer Natural Resources Canada Inc. (PNRC) Gas Plant at c-32-H/94-H-8 in the Chinchaga area of British Columbia (BC), approximately 130 km northeast of Fort St. John and terminate at the existing PNRC Hamburg Compressor Station lease at 14-29-96-11 W6M, approximately 130 km northwest of Manning, Alberta. The pipeline would be 323.8 mm in diameter (NPS 12) and would loop Beau Canada's existing 219.1 mm (NPS 8) Chinchaga Sales Gas Pipeline (Figure 1-1).

On 28 November 2000, the application was amended to request a new 10 metre right-of-way adjacent on the north side of the existing corridor, rather than placing the Chinchaga Loop between the existing Beau Canada and PNRC pipelines, as was initially proposed.

On 18 December 2000, counsel for the Applicant advised the Board that Murphy Canada Exploration Ltd., a subsidiary of Murphy Oil Corporation, had acquired Beau Canada's issued and outstanding shares and that approval of the application, if granted, should be in the name of Murphy Canada Exploration Ltd. Mr. Harvey Doerr, President of Murphy Oil Company Ltd. (Murphy), subsequently requested in his opening statement that an Order, if granted, be in the name of Murphy Oil Company Ltd.

The Board decided to hold an oral public hearing in respect of the application and issued Hearing Order GH-1-2001 on 10 January 2001. The Hearing Order set out the Directions on Procedure and identified a list of issues for discussion in the GH-1-2001 proceeding (Appendix I). On 18 January 2001, the Board received a request from Mr. Lee Morin to delay the start of the GH-1-2001 hearing from 31 January 2001 to 15 February 2001. The Board solicited comments on that request and, on 26 January 2001, after considering the comments received, notified parties of its decision to delay the start of the GH-1-2001 hearing to 15 February 2001. The Board issued amended Hearing Order AO-1-GH-1-2001 on, 30 January 2001.

On 30 January 2001, the Board invited input from federal authorities and registered intervenors in the GH-1-2001proceeding on a draft scope of the environmental assessment for the Chinchaga Loop. After considering the comments received, the Board released a scoping decision on 15 February 2001. As a responsible authority under the *Canadian Environmental Assessment Act* (CEAA), the Board carried out an environmental screening of the proposed Chinchaga Loop project. For ease of administration and to avoid duplication, the Board, in this case, carried out the screening in conjunction with the GH-1-2001 hearing process established under the NEB Act.

On 31 January 2001, the Board received another request from Mr. Morin for a further 30 day delay of the proceeding. The Board considered the submissions made by Mr. Morin as well as those of the Applicant and, on 8 February 2001, advised all parties that Mr. Morin's request for a further delay was denied. In

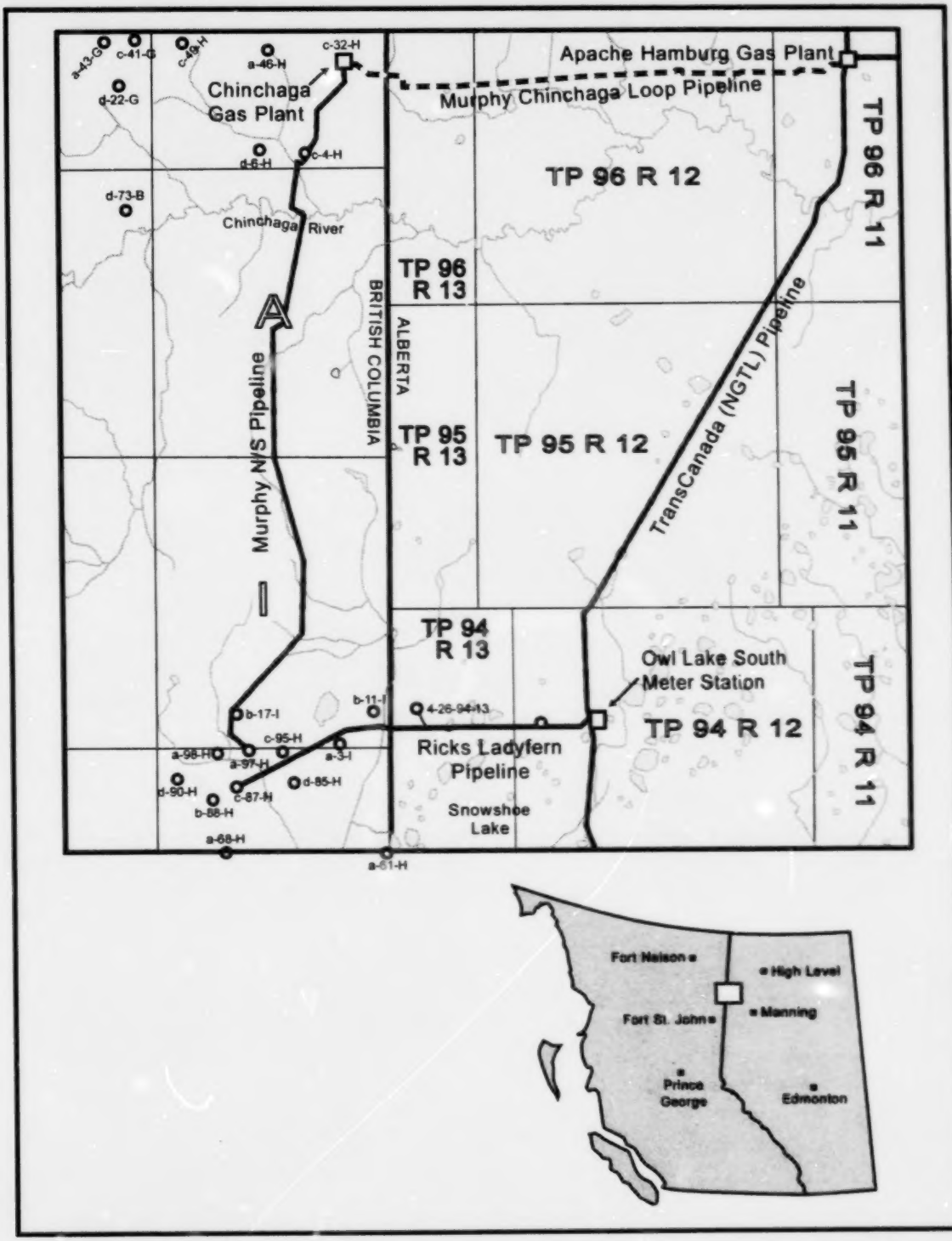
the circumstances, however, the Board did grant Mr. Morin an additional period of time to file written evidence and asked that this new deadline, as well as all others, be strictly observed.

The hearing was held in Calgary, Alberta on 15, 16, 17 and 19 February 2001. In final argument on 19 February 2001, Murphy requested that the Board render a decision from the Bench and further requested that the Board issue an Order on Tuesday, 20 February 2001. Upon adjourning the proceeding on 19 February 2001, the Board indicated that it would reserve its decision, stating that it would reconvene on 22 February 2001 to render a decision on Murphy's request for a decision from the Bench.

After adjourning the hearing on 19 February 2001, the Board prepared the CEAA Screening Report, based on the record of the GH-1-2001 proceeding, which included documents filed on the public registry. Pursuant to paragraph 20(1)(a) of the CEAA, the Board determined that, taking into account the implementation of Murphy's proposed mitigative measures and the environmental conditions that would be included in any Order that may be issued, the project is not likely to cause significant adverse environmental effects.

The Board subsequently reconvened on 22 February 2001 and, from the Bench, informed parties of its CEAA determination and then rendered its decision on the Application (Appendix II). The Board decided to grant, in part, the relief sought by the Applicant and issued Order XG-MO85-08-2001 (Appendix III), the effect of which was to approve Murphy's application, subject to the conditions contained in the Order. The CEAA Screening Report (Appendix IV) and Order XG-MO85-08-2001 were then made available to all parties.

Figure 1-1
Chinchaga Sales Gas Pipeline Loop



Chapter 2

Facilities Description and Engineering Matters

In its Application, Murphy proposed to construct approximately 17.2 km of 323.8 mm outside diameter (NPS 12) natural gas pipeline. The proposed pipeline would loop Murphy's existing 219.1 mm (NPS 8) Chinchaga sales gas pipeline and is referred to as the Chinchaga Loop. The proposed Chinchaga Loop would originate downstream of an existing separator at the existing PNRC Chinchaga Gas Plant at c-32-H/94-H-8 in BC and terminate at the existing PNRC Hamburg Compressor Station lease located at 14-29-96-11 W6M in Alberta. From there, the gas would flow to the TransCanada Pipelines Ltd., also known as NOVA Gas Transmission Ltd. (NGTL), Tanghe Creek Meter Station. In order to meet NGTL's sales gas specifications, some gas would be processed prior to entering the NGTL system at the Apache Canada Ltd. (Apache) Hamburg Gas Plant downstream of the compressor station or would be blended with the gas diverted around the plant.

Murphy indicated that the separator at the inlet of the proposed pipeline was designed to remove any additional condensed liquids in the upstream facilities. Prior to entering the separator, the gas would be sweetened at the wellsites to a hydrogen sulphide (H_2S) concentration of 8 to 10 parts per million (ppm) and all free water and water vapour would be removed at Murphy's b-17-I/94-H-1 facility.

The proposed pipeline would have a maximum operating pressure of 9 930 kPag (1 440 psig) and would be designed to handle a maximum flowing capacity of 4 500 $10^3m^3/d$ (159 MMcf/d). With the addition of compression, the capacity could be increased to approximately 5 100 $10^3m^3/d$ (180 MMcf/d). The pipeline would initially carry non-sour natural gas but, in order to provide for potential future tie-ins of sour gas, would be designed and constructed to meet *Canadian Standards Association Standard Z662-99 Oil and Gas Pipeline Systems* (CSA Z662-99) engineering material specifications for sour gas service with H_2S concentration of up to 100 ppm. The line pipe would be Grade 414, Category II steel and would have a wall thickness of 9.5 mm. The proposed pipeline would be externally coated with an extruded polyethylene jacket and the pipe to be installed in the horizontal directional drill (HDD) crossings would have additional coatings of an abrasion resistant material for extra protection.

In addition to the facilities described above, Murphy stated that it would construct tie-in facilities at the origin and terminus of the proposed pipeline, isolation valves, pigging facilities, high/low pressure pilots for leak detection and an impressed current cathodic protection system. Murphy would also install concrete pipeline weights if test holes, excavated to determine the depth of the muskeg, indicated that buoyancy control measures were required.

Murphy proposed to construct the facilities during February and March 2001, with a completion date of 15 March 2001. Murphy stated that it plans to use two pipeline spreads and to work multiple and flexible shifts in order to complete the work prior to spring break-up. The revised estimated capital cost of the project is approximately $4.7 million, including incremental costs that would be attributed to the shortened construction time frame.

Murphy proposed to construct the Chinchaga Loop on the north side of an existing corridor that would be widened by 10 metres to the north. The existing corridor contains three Board regulated pipelines: the existing Beau Canada (now Murphy) 219.1 mm (NPS 8) Chinchaga Pipeline, a PNRC gas pipeline and a

PNRC liquids pipeline. Murphy stated that, prior to the commencement of any construction, all existing pipelines in the immediate vicinity would be hand-located and flagged by a survey crew to ensure construction equipment and work would not encroach upon these pipelines. Murphy indicated that construction crews would build a snowbank over the adjacent PNRC pipeline to prevent heavy equipment from crossing it. Murphy further indicated that, where crossings of the PNRC pipeline would be required, the ground would have sufficient frost to accommodate the heavier equipment and would be padded with snow ramps.

The proposed pipeline traverses five watercourses: Tanghe Creek, Lennard Creek, an unnamed tributary of Lennard Creek and two intermittent/muskeg drainages. Murphy proposed to use HDD to cross Tanghe Creek, Lennard Creek and the unnamed tributary of Lennard Creek, whereas the intermittent/muskeg drainages would be crossed by standard open cut trenching methods using techniques to isolate the flow from the work area. Murphy submitted that several successful HDD crossings of Tanghe Creek, Lennard Creek and the unnamed tributary of the Lennard Creek have previously been made along the existing pipeline corridor. Murphy further submitted that, if HDD attempts were unsuccessful, it would seek Board approval prior to the commencement of any alternative crossing methodology.

In response to information requests and in accordance with the *Onshore Pipeline Regulations, 1999* (OPR-99), Murphy filed various documents with the Board, namely: a Quality Control Manual, including welding procedures; Waste Management Procedures; Murphy's Corporate Emergency Response Plan; a Safety Manual; a Health, Safety and Environment Manual; and the names and qualifications of the pipeline inspectors responsible for inspecting construction activities of the Chinchaga Loop.

No party challenged the technical basis for the proposed design, construction and operation of the Chinchaga Loop.

Views of the Board

Design

The Board is satisfied, on the basis of the information presented, that the Chinchaga Loop would be designed, constructed and operated in accordance with the NEB Act, the OPR-99, CSA Z662-99 and other appropriate governing codes.

The Board notes that although Murphy has indicated that the pipeline is designed for sour service, no information has been provided with respect to the potential environmental and safety effects that may result if the proposed facilities were operated for sour service. The Board has therefore included a condition that the Chinchaga Loop be operated for the transmission of non-sour gas only, as defined in Clause 5.4 of CSA Z662-99. This is Condition No. 1 of Order XG-MO85-08-2001 (Appendix III). Should Murphy wish to operate the Chinchaga Loop for the transmission of sour gas in the future, it would be required to seek appropriate Board approval.

Leave to Open

The granting of exemption from the leave to open provisions of the NEB Act is discretionary. Noting the accelerated construction schedule, the Board has decided, in this case, not to grant Murphy's request for exemption from paragraph 30(1)(b) and section 47 of the NEB Act. Murphy is therefore required to file an application for leave to open the Chinchaga Loop in accordance with Part IX of the Board's *Guidelines for Filing Requirements* (GFR).

Chapter 3

Public Consultation

Murphy indicated that all identified stakeholders, including appropriate provincial and federal government agencies, First Nations, local businesses, registered trappers, and the general public were notified of the project. Murphy's Early Public Notification (EPN) activities included:

- advertisements in the Alaska Highway Daily News (Fort St. John, BC) and the Banner Post (Manning, Alberta) in October 2000;
- distribution of EPN letters with accompanying project schematic and follow-up telephone calls;
- consultation with regional, provincial and federal governments, which commenced during the planning phase (August 2000) and continued through the application and hearing phases (February 2001);
- project presentation and consultation meetings with First Nations, which began in mid-October 2000; and
- issuance of NEB Act section 87 notices in November 2000.

Murphy submitted that, based on the Board's GFR, the level of detail of information required should correspond to the nature and magnitude of the project. In this case, the proposed project is a 17.2 km natural gas pipeline to be constructed entirely on Crown land. The project is small in size and remote in location and construction would be adjacent to an existing corridor. Based on these considerations, Murphy determined that an open house was not required.

Murphy stated that, as part of its original EPN program, it discussed a potential widening of the right-of-way. Murphy carried out additional consultation with the Doig River First Nation, Alberta Community Development and Alberta Environment located in Manning, Alberta. Murphy stated that all of the landowners and affected individuals were informed of the decision to widen the right-of-way by 10 metres to the north of the existing corridor and that it advertised the amendment to the application in the aforementioned newspapers.

In January 2001, the Board received and granted requests for intervenor status from interested individuals and organizations, including the Doig River First Nation, Mr. Lee Morin, Ms. Margaret Rothlisberger, Ms. Sally Makahaday and the North East Aboriginal Trappers Society (NEAT). These parties identified concerns with respect to public consultation for the proposed pipeline project, which the Board has described in section 4.0 - Consultation and subsection 5.9.4 of the CEAA Screening Report.

During the hearing, The Predator Corporation Ltd. (Predator) stated that it had not been engaged in early public notification by Murphy. Murphy submitted that it advised Predator in a 27 July 2000 meeting that it was examining alternatives and that it had not made a final decision regarding the pipeline route. Murphy acknowledged that it did not send a copy of its EPN package to Predator when it was distributed on 11 October 2000. Murphy drew a parallel to the GH-3-2000 proceeding in which it received late notification of the proposed Ricks Ladyfern pipeline. In that case, the late notification had been justified

by Ricks on grounds of commercial sensitivity. Murphy submitted that if the public consultation program for the Ladyfern pipeline project was deemed to be satisfactory, the Board should find Murphy's public consultation program adequate in this case.

Views of the Board

The Board notes that, in accordance with Part I of the GFR, the level of detail of the information required in Part II of the GFR shall correspond to the nature and magnitude of the proposed project. The information, however, must be sufficient for the Board to examine the environmental and socio-economic effects of the project.

The Board is of the view that Murphy undertook to identify and contact the majority of potential stakeholders as part of its EPN. As part of its EPN, Murphy missed interested members of the public, including Predator and NEAT. Nevertheless, because the Board had set Murphy's application down for hearing, Predator, NEAT and other interested persons did have, at a later stage in the process, an opportunity to provide input on the application and to participate in the GH-1-2001 proceeding. Although Murphy could have been more diligent in its EPN program, the Board considers that the public consultation program was satisfactory in the circumstances. In addition, Murphy is reminded of its undertaking to continue ongoing consultation with First Nations, NEAT, and, if requested by them, the individual trappers.

Chapter 4

Environmental, Land and Socio-Economic Matters

4.1 Environmental Matters

The Board considered environmental matters related to the proposed project pursuant to both the NEB Act and the CEAA. For ease of administration and to avoid duplication, the Board, in this case, conducted the CEAA assessment in conjunction with the GH-1-2001 proceeding established by the Board under the NEB Act. As such, the public had notice of, and the opportunity to provide input to, the environmental assessment process.

The Board conducted an environmental screening of the proposed project pursuant to subsection 18(1) of the CEAA and prepared a Screening Report (Appendix IV). In accordance with section 16 of the CEAA, the screening included the consideration of any changes that the project may cause in the environment, including any effects of any such change on health and socio-economic conditions, on physical and cultural heritage, on the current use of lands and resources for traditional purposes by aboriginal persons, or on any structure, site or thing that is of historical, archaeological, paleontological or architectural significance.

Views of the Board

The Board considers that the CEAA screening meets the requirements of the Board's own regulatory process under the NEB Act with respect to environmental matters. The CEAA Screening Report discusses environmental and socio-economic matters and sets out five related conditions that would be included in any Order with respect to the application.

The Board determined that, taking into account the implementation of Murphy's proposed mitigative measures and the environmental conditions contained in the CEAA Screening Report (Appendix IV), the Chinchaga Loop is not likely to cause significant adverse environmental effects. This represents a decision pursuant to paragraph 20(1)(a) of the CEAA and was taken prior to making a decision under Part III of the NEB Act with respect to the applied-for facilities. The five environmental conditions discussed in the CEAA Screening Report are Nos. 1, 3, 6, 7, and 10 in Order XG-M085-08-2001 (Appendix III).

4.2 Land Matters

The proposed route is located entirely on provincial Crown Land. Murphy indicated that applications to Alberta Land and Forest Service (ALFS) and to the BC Ministry of Environment, Lands and Parks were made to obtain surface rights. Murphy stated that it has been informed that these applications would be processed after the Board has issued an order, should the proposed pipeline be approved.

Murphy stated that, in order to accommodate the crossing of five watercourses, two pipelines, two underground or overhead cables, and seven private roads, as identified in its construction drawings, it would require temporary workspace at approximately 39 locations. Murphy also stated that it would utilize the existing pipeline corridor as working space as much as practical.

Views of the Board

The Board finds the proposed 10 metre-wide right-of-way, contiguous to the existing pipeline corridor, to be appropriate in order to accommodate safety, maintenance and operational requirements during the construction and operation of the pipeline. The Board also finds the need for additional workspace to be justified since the workspace would be required to accommodate road, watercourse, and other crossings. The land-related conditions are Nos. 4 and 5 in Order XG-M085-08-2001 (Appendix III).

4.3 Socio-Economic Matters

Pursuant to the NEB Act, the Board considered potential short or long-term socio-economic impacts of the proposed project. These impacts are discussed in this section. Those socio-economic matters that also fall under the CEAA are discussed in the CEAA Screening Report (Appendix IV).

Murphy mentioned that the proposed project would be located in an area with extensive oil and gas infrastructure and that no agricultural, mining or guiding activities occur near the area of the proposed pipeline. Based on information provided by the ALFS, Murphy submitted that timber resources were minimal in the immediate project area at the present time. Therefore, forest resource extraction in the immediate area of the project is not anticipated to happen in the near future.

Murphy stated that primary logistical support would be provided from Fort St. John, BC and from the area surrounding the Apache Hamburg Gas Plant in Alberta. Murphy indicated that competitive bids for construction materials, if available, would be solicited from vendors in Fort St. John, BC, and Apache Hamburg, Manning, Peace River, and Grande Prairie, Alberta. Murphy also indicated that much of the labour and equipment for maintenance and operations would be provided from these centres and small communities in the area. Murphy has also actively employed local persons in the preparation of surveys, permit applications and studies for the proposed development of the project.

Murphy stated that there would be minimal permanent effects on public transportation, public utilities and health services. Murphy also stated that it would use two construction camps: an existing camp near the west end of the proposed route; and the existing Hamburg Open Camp, near the east end. During operation, personnel would be based out of the Hamburg Open Camp and would access the pipeline via winter road and by helicopter. Murphy further stated that once pipeline construction has been completed, the workers and temporary camp sites, if any, would be removed from the area.

The BC Ministry of Energy and Mines (BC MEM) indicated that the project would benefit consumers and that its postponement would result in foregone royalty revenues. The project was also supported by Apache, AEC Marketing and NGTL in light of its potential economic benefits.

In January 2001, the Board received requests for intervenor status from interested parties including the Doig River First Nation, registered trappers (Mr. Morin, Ms. Rothlisberger and Ms. Makahaday) and

NEAT. These parties identified concerns with respect to registered trapline operations in BC and Alberta, which had the potential of being impacted by the proposed Chinchaga Loop.

Murphy stated that it would compensate all affected area trappers in accordance with the provisions set out by the respective provincial trappers compensation boards. These boards have been appointed to review claims that cannot be resolved through direct negotiations. Furthermore, as part of its proposed mitigative measures, Murphy would provide openings in any windrowed slash to allow for access of fur bearers, should trappers request it. Murphy indicated that it would meet with the trappers, if requested to do so. The Board has considered these concerns and has expressed its views in section 5.9 - Traditional Use, of the CEAA Screening Report.

Views of the Board

Pursuant to the NEB Act, the Board is of the view that the project will offer short-term socio-economic benefits to the local communities associated with local employment, retail material purchases and the lease of equipment during the construction phase and equipment leasing for the maintenance and operation of the pipeline and to the Province of BC.

The Board considered the potential socio-economic concerns raised by registered trappers (Mr. Lee Morin, Ms. Margaret Rothlisberger, and Ms. Sally Makahaday) and NEAT. The Board is of the view that, taking into account the magnitude and extent of the project and Murphy's proposed mitigative measures, significant impacts to socio-economic conditions are not likely to occur.

Chapter 5

Financial Matters, Tolls, Tariffs and Transportation

5.1 Financial Matters

In its application, Murphy indicated that the cost of the proposed pipeline would be approximately $4.2 million and that capital had been allocated for the project. Murphy stated that it would assume all of the financial risk of the proposed facilities. Murphy subsequently estimated that, with the accelerated time frame for construction this winter, the incremental cost of constructing the pipeline would be an additional $500 000. Murphy submitted that the total cost of the construction would be paid for through internal financing with Murphy still assuming all of the financial risk of the project. No concerns were raised by parties during the GH-1-2001 proceeding.

5.2 Tolls, Tariffs and Transportation

Murphy proposed to offer service to third parties and provided toll information. Murphy stated that the toll, calculated using the Jumping Pound Formula, would be $1.11 per 10^3m^3 capital plus operating expenses. Murphy indicated that the toll would be guaranteed for 15 years, after which there would be a fee escalation based on the Consumer Price Index. Murphy further stated that the proposed toll would not be impacted by the additional cost to complete the construction in an accelerated time frame.

In its Letter of Comment, Baytex Energy Ltd. (Baytex) indicated that it would like to reserve the right to address the toll or the terms of the pipeline tariff with the operator at a later date. No other party expressed an interest in this matter.

5.3 Method of Regulation

Murphy is presently regulated by the Board as a Group 2 Company. Murphy made no request as to the method of regulation to be used by the Board and the matter was not raised by any party.

Views of the Board

On the basis of the financial information filed, which included the 1999 Annual Report and third quarter 2000 financial statements for Murphy Oil Corporation, the Board determined that Murphy is able to finance the proposed pipeline.

Having regard to its size, number of shippers and tolling methodology, the Board finds the Group 2 method of regulation to be acceptable for Murphy. Therefore, for administrative purposes, Murphy will continue to be regulated as a Group 2 Company in accordance with the Board's *Memorandum of Guidance on the Regulation of Group 2 Companies* (MOG).

In accordance with the Board's MOG, Group 2 Companies are regulated on a complaint basis. Therefore, the Board does not consider it necessary to issue an Order approving Murphy's proposed tolls and tariffs. However, Murphy is required to file with the Board a copy of the finalized transportation rates prior to the commencement of operation of the proposed pipeline in accordance with paragraph 60(1)(a) of the NEB Act.

The Board also advises that paragraphs 5(2)(a) through (c) of the *Gas Pipeline Uniform Accounting Regulations* apply to Murphy. As well, the Board directs Murphy to file segmented financial information for this pipeline in conjunction with its filing of segmented financial information for the other Murphy pipelines regulated by the Board.

The Board further reminds Murphy that the cost of this project, including any overruns, may be subject to examination pursuant to the Board's responsibilities under Part IV of the NEB Act.

Chapter 6

Economic Feasibility and Public Interest

6.1 Markets

Murphy indicated that it would market its share of gas shipped through the Chinchaga Loop as part of its overall portfolio and that most of its gas is sold into the intra-Alberta daily or monthly spot market. Murphy submitted that forecast BC plantgate prices for 2001 and 2002 were significantly higher than those received during recent memory. Based on its throughput assumptions, Murphy maintained there would be significant revenues to ensure that the pipeline was economically feasible.

In its Letter of Comment, the BC MEM submitted that consumers who rely on BC and Alberta for their gas supply would benefit from the additional natural gas provided by the project. On this basis, Murphy submitted that it was in the public interest to construct the pipeline this winter to avoid the shutting-in of wells. This view was echoed by Apache and NGTL. Apache argued that any delay would increase the risk that gas would not be delivered to markets that seriously need greater supply, while NGTL argued that the proposed pipeline would provide the tight North American energy market with an important new source of supply. Mr. Morin questioned this view on the basis that the gas supply for the Chinchaga Loop would represent less than one percent of the daily productive capacity of the Western Canada Sedimentary Basin.

Predator argued that Murphy had not met the onus of investigating the alternatives to its proposed pipeline. Predator questioned whether two pipelines from the Ladyfern area were needed, and pointed to the recently approved Ricks Ladyfern pipeline. Predator was of the view that no serious discussion had taken place regarding the alternative of using the Ricks Ladyfern pipeline.

Murphy submitted that the best delivery point for its gas was the Apache Hamburg Gas Plant and that the gas would be delivered to this point via the proposed Chinchaga Loop and existing and new provincially regulated facilities.

Murphy submitted that its gas supply requires processing or blending, and considered that it would be more cost effective to use the existing Apache Hamburg Gas Plant, located at the outlet of the proposed Chinchaga Loop, than to build a new gas plant. Murphy provided gas analyses for wells in the Ladyfern area to support this view.

Due to the need for processing, the options of using the Ricks Ladyfern pipeline or of constructing a pipeline from the Ladyfern area directly east to NGTL at Owl Lake South were rejected by Murphy, as they would have required Murphy to build a new gas plant. Murphy indicated that while NGTL would likely give short-term relief on the dewpoint specification at its the Owl Lake facility, any such relief would be interruptible and could not be permanent. The option of using the existing PNRC 219.1 mm (NPS 8) pipeline was also rejected due to a lack of available capacity. The option of delivering gas into the Westcoast system was not considered economically attractive and would have required a new pipeline corridor.

6.2 Supply

Murphy indicated that its existing 219.1 mm (NPS 8) Chinchaga Pipeline was running at capacity, and was primarily supplied from the a-97-H/94-H-1 well. It was Murphy's evidence that the Chinchaga Loop would be supplied from incremental volumes from the a-97-H well and from several proposed wells in the Chinchaga and Ladyfern areas.

Murphy indicated that the existing a-97-H well was currently producing at a rate of 1 300 $10^3m^3/d$ (46 MMcf/d) and that its production was restricted due to the size of the tubing in the well and the current allowable production rate set by the BC Oil and Gas Commission (BC OGC). Murphy stated that the well was capable of producing nearly 2 830 $10^3m^3/d$ (100 MMcf/d) and that it will apply to the BC OGC to increase its allowable rate once larger tubing is installed.

During the proceeding, Murphy clarified that most of the supply for the Chinchaga Loop was expected to come from the Ladyfern area and estimated the total initial deliverability from wells in the Ladyfern area at between 4 113 $10^3m^3/d$ (145 MMcf/d) and 8 734 $10^3m^3/d$ (308 MMcf/d).

Murphy indicated that one of the proposed wells, b-88-H/94-H-I, located 1.5 kilometres southwest of the a-97-H well, has recently tested at a rate of 1 050 $10^3m^3/d$ (37 MMcf/d). In addition, Murphy is currently drilling or proposing to drill ten additional wells in the Ladyfern area this winter. Seven of the wells are on a geological and seismic trend adjacent to or between the a-97-H well and the 4-26-94-13 W6M well in Alberta. Murphy stated that five of these seven wells have been drilled, that logging has been conducted and that gas shows are present for three of them to date but that individual well testing had not yet been conducted. Three other wells are currently being drilled in the area. Murphy estimated that the ten proposed wells would each be capable of producing 282 $10^3m^3/d$ (10 MMcf/d) on average.

Murphy indicated that Alberta Energy Company had successfully completed a prolific gas well approximately five miles to the south of the a-97-H well. Murphy submitted that this suggests the known gas bearing reefal area encompasses almost all of the Murphy and Apache acreage portfolio.

With respect to supply from the Chinchaga area, Murphy indicated that its drilling program had not yet provided the hoped-for results. In response to information requests from the Board, Murphy revised the initial deliverability from wells in the Chinchaga area to between 949 $10^3m^3/d$ (33 MMcf/d) and 1 332 $10^3m^3/d$ (47 MMcf/d). Two wells in the area are currently producing a total of 140 $10^3m^3/d$ (5 MMcf/d). In addition, one well has been drilled and abandoned and another well is currently being drilled. Several other locations have been identified for drilling in 2002 and Murphy indicated that it plans to reprocess its seismic data prior to proceeding with further drilling.

Predator submitted that the supply information provided by Murphy was not adequate since results of drilling were not positive in the Chinchaga area and, as a result, the entire supply underpinning the application was from the Ladyfern area. Predator was of the view that the estimates of supply from the Ladyfern area were not supported by well data and noted that there was only one producing well. Predator indicated that incremental supply from the a-97-H well would require the BC OGC to lift the allowable production rate and pointed out that a previous request to the BC OGC had been denied in August 2000.

Predator argued that, if the Board was to approve the application, it should make the approval conditional on Murphy supplying the Board with credible evidence of reserves or deliverability in a volume which the Board believes would make the pipeline economic. Predator submitted that such an approach would be consistent with the Board's decision in the GH-3-2000 proceeding for the Ricks Ladyfern pipeline. Murphy submitted that such a condition was neither appropriate nor necessary, as it was of the view that there was sufficient evidence of gas supply in this case.

Mr. Morin submitted that evidence that can be tested was needed to assess whether there is sufficient gas to fill the proposed pipeline. Mr. Morin was of the view that there was no data to allow a reasonable assessment of supply and that limited information had been provided to the Board.

Murphy provided three estimates of gas-in-place potential for each of the Chinchaga and Ladyfern areas. The potential gas-in-place estimates in the Ladyfern area, based on volumetric data, vary from a conservative estimate of 6 225 10^6m^3 (220 Bcf), to a moderate estimate of 11 410 10^6m^3 (400 Bcf), and to an aggressive estimate of 18 510 10^6m^3 (650 Bcf). Murphy indicated at the hearing that the conservative estimate may be somewhat low based on the information recently obtained from the new wells. Murphy submitted that its production data, reservoir modelling, and material balance analyses indicate strongly that the gas-in-place exceeds 5 635 $10^3m^3/d$ (200 Bcf) for the a-97-H well. With respect to the Chinchaga area, Murphy estimated the undiscovered potential gas-in-place in its conservative case at 3 860 10^6m^3 (136 Bcf).

Predator argued that while Murphy had stated that it had done a material balance analysis on the a-97-H well and performed volumetric estimates, neither were provided to the Board in support of the application. As well, Predator noted that although Murphy had confirmed the location of wells in the Ladyfern area, based primarily on 3-D seismic, no seismic data has been provided to the Board. Accordingly, Predator argued that beyond assertions made by Murphy, there is no actual data to support reserves or seismic interpretations.

6.3 Public Interest

Murphy acknowledged that the Board has a public interest mandate and that the public interest, in this case, included the interest of individual parties, whether they are oil and gas companies or trappers or First Nations, the protection of the environment and the consideration of society. Murphy was of the view that this included commercial interests. Murphy also maintained that this involved the need to get a significant amount of gas to markets. Murphy submitted that the proposed Chinchaga Loop would benefit the supply-challenged North American market's need for clean and efficient fuels and would benefit the Province of BC through increased royalties and tax revenues.

Murphy submitted that any negative impacts of its proposal would be limited to a 10 metre widening of an existing corridor and a few short weeks of disturbance for construction. As well, Murphy argued that there is a public interest in getting the construction done in the winter to minimize environmental impact.

Based on its experience in the area, Murphy believed there was sufficient time to construct the proposed pipeline this winter, particularly if an expedited process was achieved. Murphy further submitted that failure to complete the line during the winter season would have a detrimental impact on Murphy and its partners, on government royalty and tax income, and would result in almost a full year of shut-in gas at a time when the market needed it.

Apache, NGTL, AEC Marketing, Baytex and the BC MEM expressed similar views in support of Murphy's application.

Apache indicated that it holds a 37 percent working interest in the Ladyfern lands and submitted that timely completion of the proposed pipeline was in the overall public interest. Apache suggested that every day lost increased the risk to area producers that capital currently employed would be stranded for approximately one year, the risk of shutting in gas, the risk of delayed benefits to the citizens of BC through royalty and tax payments, the risk to people who obtain employment from oil and gas operations, and the risk that gas will not be delivered to markets that seriously need greater supply .

NGTL highlighted some of the public interest benefits expressed by Murphy and submitted that the benefits of a timely installation were significant and appeared to outweigh the adverse impacts of any delay.

AEC Marketing, whose parent company recently completed a successful gas well and holds extensive acreage in the area, submitted that its ability to remove gas was directly impacted by the available pipeline capacity.

Baytex indicated that it is an equal partner with Murphy in wells in the Chinchaga area. Baytex submitted that the proposed pipeline would facilitate a significant amount of deep gas exploration in the area and provide economic benefits to all area stakeholders with minimal incremental surface impact.

The BC MEM indicated that if construction of the Chinchaga Loop was delayed by 200 days, the Province of BC could forego incremental royalty revenues of approximately $15 million to $30 million, based on incremental production of 1416 $10^3m^3/d$ (50 MMcf/d) to 2830 $10^3m^3/d$ (100 MMcf/d). The BC MEM also stated that the applied-for facilities would provide a significant volume of new supply to the natural gas market which serves Canadian consumers.

Mr. Morin acknowledged that private interests would be impacted if the proposed pipeline was not constructed this winter; however, he questioned the perspective that private corporate interests should be used to override the broader public interest. Mr. Morin acknowledged that he was also representing a private interest, one of a person who has lived on the landscape in excess of 40 years and who has seen his lifestyle slowly eroded because of the ongoing activities of the oil and gas industry, of which this project was the latest. Mr. Morin's specific concerns, and those of the other trappers who intervened in this proceeding, are more fully addressed in the CEAA Screening Report (Appendix IV).

Views of the Board

Markets

The Board considers Murphy's plan to market the gas shipped through the Chinchaga Loop as part of its overall portfolio to be adequate. In light of the current high natural gas prices and tight supply environment, the Board is of the view that the public interest is served by bringing incremental volumes to the North American market in a timely fashion.

Considering Murphy's expectation that the gas supply from the Ladyfern area will require processing or blending, which would be performed, in part, at the existing Apache Hamburg Gas Plant, the Board is of the view that the proposed Chinchaga Loop represents the best feasible option to transport the gas volumes underpinning Murphy's application to market.

Supply

During the hearing, the Board issued a ruling that the proposed Chinchaga Loop represented an expansion and was not a new service request. The Board confirmed that Murphy was not required to file the information required by Sections 2 to 12 of Part III of the GFR. Nevertheless, the Board recognized that the adequacy of supply should be considered, having identified this matter in the list of issues for the GH-1-2001 proceeding (Appendix I).

In determining overall gas supply for a proposed facility, the Board assesses established gas supply and also evaluates the undiscovered gas potential that could support the proposed facility. The Board notes that the a-97-H well is producing and that the b-88-H well has been tested and both would be considered to have established reserves. The Board also notes that seven of the proposed wells are located between or adjacent to producing wells and would be considered to have probable gas reserves.

The Board is of the view that the estimated gas-in-place and deliverability forecasts provided by Murphy indicate an adequate level of supply required to support the project. This view is reinforced by the level of drilling activity in the area. The Board is satisfied that Murphy has provided adequate information in this instance to conclude that there is a reasonable expectation that sufficient gas supply exists to support the applied for project.

The Board considered Predator's proposal to condition any approval by requiring Murphy to supply the Board with evidence of reserves or deliverability in certain volume. The Board is of the view that sufficient evidence of supply has been provided by the Applicant in its filed evidence and on examination during the proceeding and, therefore, considers that in the circumstances of this case, such a condition is not required.

Public Interest

The Board is of the view that, in the context of high prices and tight supply, the public interest is served by bringing incremental gas volumes to market in a timely fashion and notes that construction of the Chinchaga Loop this year would provide a means to bring incremental natural gas supply to the North American market.

Economic Feasibility and Need for the Proposed Facilities

When an applicant proposes to build a commercially at-risk pipeline, the Board expects that the facility would operate at a reasonable level of utilization over its economic life. In this regard, the Board has stated in the past that it may generally be satisfied that this will be the case when there is a reasonable expectation that there will be sufficient gas and that the gas will be able to find markets.

On the basis of the Board's satisfaction with Murphy's ability to finance the proposed pipeline and with the evidence of markets and supply provided by the Applicant, the Board expects that the proposed pipeline will be used at a reasonable level over its economic life.

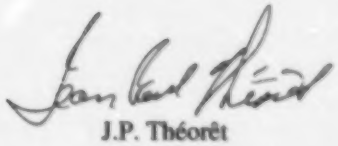
Overall, the Board is satisfied that the proposed Chinchaga Loop is needed. Further, the Board is persuaded that the public interest is served by granting a prompt approval for the proposed Chinchaga Loop, as requested by the Applicant and many parties. Any delay in rendering a decision could prevent the completion of construction and commencement of operation in a timely fashion, which would not be in the public interest in light of the current context of high prices and tight supply. To continue to ensure environmental protection despite an accelerated construction time frame, the Board has imposed Condition No. 10 in Order XG-M085-08-2001.

Chapter 7

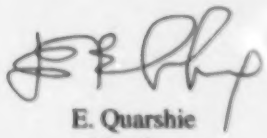
Disposition

The foregoing constitutes our Reasons for Decision in respect of the application considered by the Board in the GH-1-2001 proceeding. On 22 February 2001, the Board rendered its decision from the Bench with reasons to follow. The decision has been reproduced in Appendix II. The Board also issued Order XG-M085-08-2001 on 22 February 2001. The Order has been reproduced in Appendix III.

J.S. Bulger
Presiding Member



J.P. Théorêt
Member



E. Quarshie
Member

Calgary, Alberta
March 2001

Appendix I

List of Issues

In the GH-1-2001 Directions on Procedure the Board identified, but did not limit itself to, the following issues for discussion in the proceeding:

1. The need for the proposed facilities.

2. The adequacy of supply.

3. The economic feasibility of the proposed facilities.

4. The potential environmental and socio-economic effects of the construction and operation of the applied-for facilities including those factors outlined in subsection 16(1) of the Canadian Environmental Assessment Act.

5. The appropriateness of the design of the applied-for facilities.

6. The appropriateness of the location of proposed facilities, land requirements and the land rights acquisition process.

7. The method of toll and tariff regulation.

8. The terms and conditions to be included in any order which may be issued.

Appendix II

22 February 2001 Decision from the Bench

Good morning, Ladies and Gentlemen. Bonjour, Mesdames et Messieurs.

As I indicated in my opening statement last Thursday on the 15th of February, 2001, Murphy Oil Company Limited has applied to the National Energy Board for an order pursuant to section 58 of the National Energy Board Act, the effect of which, if granted, would be to allow Murphy to construct and operate a natural gas pipeline approximately 17 kilometres in length from the Chinchaga area of British Columbia to the Hamburg area of Alberta.

This proposed pipeline has been referred to in this proceeding as the Chinchaga Sales Gas Pipeline Loop or the Chinchaga Loop.

Pursuant to section 58 of the Act, Murphy has requested that the Board grant an exemption from the requirements of sections 29 to 31 and section 47 of the NEB Act.

The Board, under the NEB Act, established the GH-1-2001 public hearing process to consider Murphy's application.

At several points during the GH-1-2001 hearing process, Murphy requested that the Board render a decision from the Bench and, in argument, reiterated that request for a decision on Tuesday, the 20th of February, 2001. Murphy based its request on the fact that time was of the essence to minimize environmental damage and to prevent gas from being shut in.

The Board indicated at the close of argument on Monday, the 19th of February 2001 that it would take under advisement Murphy's request for a decision from the Bench until Thursday, the 22nd of February 2001 at 9:00 a.m. and that the Board would reconvene at that time to render a decision on that request.

The Board will now deal with that request and wishes to advise parties as follows:

Canadian Environmental Assessment Act obligations:

Pursuant to the Canadian Environmental Assessment Act, the Board has considered the information submitted by Murphy and all other documents on the public registry which have been incorporated into the public record for the GH-1-2001 proceeding, including the evidence adduced and the submissions made during the proceeding. The Board has conducted an environmental assessment of the applied-for Chinchaga Sales Gas Pipeline Loop project and has prepared an environmental screening report.

Application of subsection 18(3) of CEAA:

The Board has considered Mr. Morin's request that the screening report, in this instance, be made available for public comment for a period of five days and, in the context of the Board's CEAA obligations, has considered the comments of other parties on this matter.

The Board does not agree with Mr. Morin that the Board has an obligation to provide an opportunity for comment on this screening report at this time and in these circumstances.

Under the CEAA there are three types of assessments that may be conducted: an environmental screening, a comprehensive study and a panel review, depending upon the nature of the project, the level of public concern, and the potential environmental effects associated with the project.

In this case, the applied-for project is subject to a screening. In most cases a screening report is prepared internally by the Board without involving, or with very limited, public input.

In this case, for ease of administration and to avoid duplication, the Board has conducted the CEAA assessment in conjunction with the hearing process already established by the Board under the NEB Act. For this reason, the public has had notice of and the opportunity to provide input in the screening process.

Through the Board's own processes under the NEB Act, members of the public were given notice of the proceeding and were extended an opportunity to intervene and become a party to the proceeding or simply file letters of comment. Parties have had the opportunity to question documents on the record, including the public registry, and to cross-examine the Applicant's witnesses, file evidence and be cross-examined on evidence of their own. As well, parties have had the opportunity to present argument.

The Board would also note that the proceeding was delayed by a period of two weeks to allow parties a further opportunity to prepare and provide input. The Board has, therefore, through its public hearing process held pursuant to the NEB Act, extended to the public an opportunity to comment on and participate in the GH-1-2001 proceeding to address all relevant issues, including environmental matters. In this case, this also included matters concerning the environmental assessment of the project.

The Board considers that the public has thereby had ample notice of, and opportunity for input in, the Board's CEAA determination process.

With respect to the scoping process under CEAA, the Board, on the 30th of January 2001, in order to meet its requirements under the Federal Coordination Regulations under the CEAA, and to ensure that appropriate issues were addressed in the environmental assessment, invited input from federal authorities on a draft scope of the environmental assessment for the Chinchaga Loop.

Given that a hearing process had already been initiated to consider Murphy's application under the NEB Act, the Board also extended to registered GH-1-2001 intervenors an opportunity to comment on the scope of the environmental assessment before the commencement of the hearing.

In the exercise of its discretion as a responsible authority under CEAA, the Board, after considering the comments received on the draft scope, released a scoping decision at the commencement of the hearing on the 15th of February 2001.

The Board does not consider that subsection 18(3) of the CEAA has been engaged in these circumstances. While there may be instances where the Board may wish to exercise its discretion under subsection 18(3) of the CEAA, this is not such a circumstance. Should this section apply, however, the Board is satisfied on the basis of the above discussion that the requirements of that provision have been

met, even if the screening report is not released for further public comment. The Board considers that it has, in this situation, met the spirit, intent and any requirements of CEAA in this regard.

CEAA determination:

The Board's hearings concluded with argument on Monday, the 19th of February 2001. The Board has determined, pursuant to paragraph 20(1)(a) of the CEAA, that, taking into account the implementation of Murphy's proposed mitigative measures and those set out in the conditions attached to the Board's screening report, the Chinchaga Sales Gas Pipeline Loop project is not likely to cause significant adverse environmental effects.

The Board's screening report will be available at the back of the room shortly.

Merits of the Application under the NEB Act:

Having considered, addressed and discharged its obligation under the CEAA, the Board wishes at this time to render its decision on Murphy's application with reasons to follow.

The Board has examined the filed application and the evidence adduced during the course of the GH-1-2001 proceeding, including letters of comment and the submissions and arguments of the parties to the proceeding.

After having given careful consideration to the matter, the Board is of the view that it would be in the public interest to grant, in part, the relief requested by Murphy subject to a number of conditions to be outlined in the Board's order.

Accordingly, the Board orders, pursuant to section 58 of the NEB Act, that the Chinchaga Sales Gas Pipeline Loop is exempt from the requirements of paragraph 30(1)(a), subsection 30(2) and section 31 of the NEB Act upon the conditions outlined in the Order, the effect of which is to allow Murphy to proceed with the project subject to compliance with those conditions.

The Board does not, however, accede to Murphy's request for exemption from the requirements of section 47 with respect to leave to open, and that request is denied.

The Board reminds Murphy that it has made a number of commitments and undertakings to the Board and other parties during the GH-1-2001 proceeding and expects Murphy to adhere to these commitments and undertakings.

The Board has also decided that, for administrative purposes, Murphy will be continued to be regulated as a Group 2 Company in accordance with the Board's Memorandum of Guidance on the Regulation of Group 2 Companies dated the 6th of December 1995.

The Board notes that in accordance with the Board's Memorandum of Guidance, Group 2 Companies are regulated on a complaint basis. As such, the Board does not consider it necessary to issue an order approving Murphy's proposed tolls and tariffs. However, Murphy is required to file with the Board a copy of the finalized transportation rates prior to the commencement of operation of the proposed pipeline in accordance with paragraph 60(1)(a) of the NEB Act.

The Board advises that paragraphs 5(2)(a) through (c) of the Gas Pipeline Uniform Accounting Regulations apply to Murphy. As well, the Board directs Murphy to file segmented financial information for this pipeline in conjunction with its filing of segmented financial information for the other Murphy pipelines regulated by the Board.

The Board further reminds Murphy that the cost of this project, including any overruns, may be subject to examination pursuant to the Board's responsibilities under Part IV of the NEB Act.

This is the Board's decision on Murphy's application. Written reasons for this decision will be issued in due course.

The Board's Order, including conditions, will shortly be made available at the back of the hearing room for the convenience of parties.

Once again, the Board would like to thank all the parties to this proceeding for their input and participation in the Board's process.

The panel would especially like to express its appreciation to Board staff for their extraordinary efforts.

This matter is now completed, subject to the release of our Reasons for Decision. Thank you, ladies and gentlemen.

Appendix III

ORDER XG-M085-08-2001

IN THE MATTER OF the National Energy Board Act (the Act) and the regulations made thereunder; and

IN THE MATTER OF an application, pursuant to section 58 of the Act, by Murphy Oil Company Ltd. (Murphy), dated 30 October 2000, as amended, filed with the Board under Files 3400-B032-3 and 3400-M085-1.

BEFORE the Board on 22 February 2001.

WHEREAS the Board has received an application from Murphy for the construction of a natural gas pipeline of approximately 17.2 kilometres in length beginning near the Pioneer Natural Resources Canada Inc. (PNRC) Gas Plant at c-32-H/94-H-8 northeast of Fort St. John in British Columbia and ending at the PNRC Hamburg Compressor Station at 14-29-96-11 W6M in northwestern Alberta (the Chinchaga Sales Gas Pipeline Loop);

AND WHEREAS, pursuant to the *Canadian Environmental Assessment Act* (CEAA), the Board has considered the information submitted by Murphy and all other documents on the public registry which have been incorporated into the public record for the GH-1-2001 Proceeding, including the evidence adduced and submissions made during the GH-1-2001 Proceeding, and has conducted an environmental screening of the Chinchaga Sales Gas Pipeline Loop project and has prepared an Environmental Screening Report;

AND WHEREAS the Board has determined, pursuant to paragraph 20(1)(a) of the CEAA that, taking into account the implementation of Murphy's proposed mitigative measures and those set out in the attached conditions, the Chinchaga Sales Gas Pipeline Loop project is not likely to cause significant adverse environmental effects;

AND WHEREAS the Board has examined the application and considers it to be in the public interest to grant, in part, the relief requested, subject to the following conditions;

IT IS ORDERED pursuant to section 58 of the Act that the Chinchaga Sales Gas Pipeline Loop project is exempt from the provisions of paragraph 30(1)(a), subsection 30(2) and section 31 of the Act, upon the following conditions:

General

1. The Chinchaga Sales Gas Pipeline Loop shall be operated for the transmission of non-sour gas only, as defined in Clause 5.4 of Canadian Standard Association standard CSA Z662-99.

2. Murphy shall cause the approved facilities to be designed, manufactured, located, constructed, installed and operated in accordance with those specifications, drawings and other information or data set forth in its Application or otherwise adduced in evidence before the Board in the GH-1-2001 Proceeding.

3. Murphy shall implement or cause to be implemented all of the policies, practices, and procedures for the protection of the environment included in or referred to in its Application or otherwise adduced in evidence before the Board in the GH-1-2001 Proceeding.

Prior to Commencement of Construction

4. Murphy shall file with the Board, prior to the commencement of clearing or other construction activities the agreements for all road, utility and pipeline crossings showing that Murphy has obtained the necessary consent.

5. Murphy shall file with the Board, prior to the commencement of clearing or other construction activities, all necessary British Columbia and Alberta Crown Land acquisition agreements.

6. Murphy shall file with the Board for approval, at least two business days prior to the commencement of clearing or other construction activities, an updated Environmental Protection Plan.

7. Murphy shall develop an audit program for the protection of property, the environment, and the safety of the public and company employees pursuant to section 53 of the *Onshore Pipeline Regulations, 1999*. Murphy shall file the audit program with the Board at least 2 business days prior to the commencement of clearing or other construction activities.

During Construction

8. Murphy shall, during construction, maintain for audit purposes at each construction site a copy of the welding procedures and non-destructive testing procedures used on the project, together with all supporting documentation.

9. Murphy shall, during construction, maintain a file at each construction site containing:

   (a) any information relating to applicable environmental undertakings as set out in the Application or as otherwise adduced in evidence before the Board; and

   (b) copies of all applicable permits or authorizations containing environmental conditions.

10. Unless the Board otherwise directs, Murphy shall not carry out construction, clean-up or reclamation activities between 15 March and fall freeze up.

Expiration of Order

11. This Order shall expire on 31 December 2002 unless construction and installation with respect to the applied-for facilities has commenced by that date.

NATIONAL ENERGY BOARD

Michel L. Mantha
Secretary

Appendix IV

CEAA Screening Report

In light of the multiple references made to the CEAA Screening Report, it has been reproduced as Attachment IV to the GH-1-2001 Reasons for Decision, without its attachments. Attachment 1 to the CEAA Screening Report contains the Scope of the Environmental Assessment while Attachment 2 to the CEAA Screening Report is a Table of Issues and Mitigation and Protection Measures. These documents are available upon request by contacting the Board.

CEAA SCREENING REPORT

CHINCHAGA SALES GAS PIPELINE LOOP
MURPHY OIL COMPANY LTD.

GH-1-2001

National Energy Board

22 February 2001

Table of Contents

1.0 GENERAL INFORMATION 1
1.1 Introduction 1
1.2 Project Description 3
1.2.1 Proposed Facilities 3
1.2.2 Decommissioning and Abandonment 4
1.2.3 Schedule 4
1.2.4 Route and Facilities Site Selection 5
1.3 Description of the Environment 6
1.3.1 Natural Environment 6
1.3.2 Cultural and Socio-Economic Environment 7

2.0 ROLE OF OTHER FEDERAL AGENCIES 7

3.0 SCOPING 8

4.0 CONSULTATION 9
4.1 Other Government Agencies 9
4.2 Public/Interested Parties 10
4.2.1 First Nations 10
4.2.2 Registered Trappers 10
4.2.3 Mr. Lee Morin 11
4.2.4 Mrs. Margaret Rothlisberger 11
4.2.5 North East Aboriginal Trappers Society 11
4.2.6 Alberta Wilderness Association 11
4.2.7 Western Canada Wilderness Committee 12

5.0 ENVIRONMENTAL ASSESSMENT 12
5.1 Environmental Assessment Process and Procedures 12
5.2 General Mitigation Measures 12
5.3 Abandonment and Decommissioning 13
5.4 Timing of Break-up 13
5.5 Vegetation and Soils 13
5.6 Fish and Fish Habitat 14
5.7 Wildlife 16
5.7.1 Wildlife in General 16
5.7.2 Furbearers and Large Carnivores 17
5.7.3 Ungulates 18
5.7.4 Views of the Board 21
5.8 Cultural and Heritage Resources 23
5.9 Traditional Use 23
5.9.1 Doig River First Nation 23
5.9.2 Mr. Lee Morin 24
5.9.3 Mrs. Margaret Rothlisberger 24
5.9.4 North East Aboriginal Trappers Society 24

5.10 Monitoring 26
5.11 Effects of the Environment on the Project 27
5.12 Accidents and Malfunctions 27
5.13 Cumulative Effects 29

6.0 LAND MATTERS 31

7.0 THE BOARD'S CONCLUSION 31
7.1 Proposed Order Conditions 32

8.0 CEAA DETERMINATION 33
8.1 Public Comment 33
8.2 CEAA Determination 34

9.0 DECISION 34

10.0 DEPARTMENTAL / AGENCY CONTACT 34

Attachment 1: Scope of the Environmental Assessment
Attachment 2: Table of Issues and Mitigation and Protection Measures

Abbreviations

Alberta Land and Forest Service	ALFS
Alberta Community Development	ACD
Alberta Wildlife Status Report	Status Report
B.C. Ministry of Small Business, Tourism and Culture	MSBTC
B.C. Ministry of Environment, Lands and Parks	BC MELP
Canadian Environmental Assessment Act	CEAA
Canadian Coast Guard	CCG
Chinchaga Sales Gas Pipeline Loop	Chinchaga Loop
Committee on the Status of Endangered Wildlife in Canada	COSEWIC
early public notification	EPN
Emergency Response Plan	ERP
Environmental Protection Plan	EPP
Environmentally Sensitive Area	ESA
Fisheries and Oceans Canada - Habitat Management Division	DFO-HMD
hectares	ha
kilometre	km
metre	m
Murphy Oil Company Ltd.	Murphy
National Energy Board	the Board
National Energy Board Act	the Act
North East Aboriginal Trappers Society	NEAT
Onshore Pipeline Regulations, 1999	OPR 99
Operating Guidelines for Industrial Activity in Caribou Ranges in Northwestern Alberta	Operating Guidelines
parts per million	ppm
Pioneer Natural Resources Canada Inc.	PNRC
Regulations Respecting the Coordination by Federal Authorities of Environmental Assessment Procedures and Requirements	Federal Coordination Regulations
Valued Ecosystem Component	VEC
Western Canada Wilderness Committee	WCWC
Wildlife Observation Reports	the Wildlife Reports

NATIONAL ENERGY BOARD/OFFICE NATIONAL DE L'ÉNERGIE

ENVIRONMENTAL SCREENING REPORT

1.0 GENERAL INFORMATION

Applicant:	Murphy Oil Company Ltd.
NEB File No:	3400-B032-3 and 3400-M085-1
FEAI No:	379
Application Date:	30 October 2000
Screening Document Name:	murphy chinchaga screening
Environmental Assessment Type:	Screening

Title/Subject: **Murphy Oil Company Ltd. (Murphy)**
Section 58 Application
Construction and Operation of the Chinchaga Sales Gas Pipeline Loop (the Chingaga Loop)

1.1 Introduction

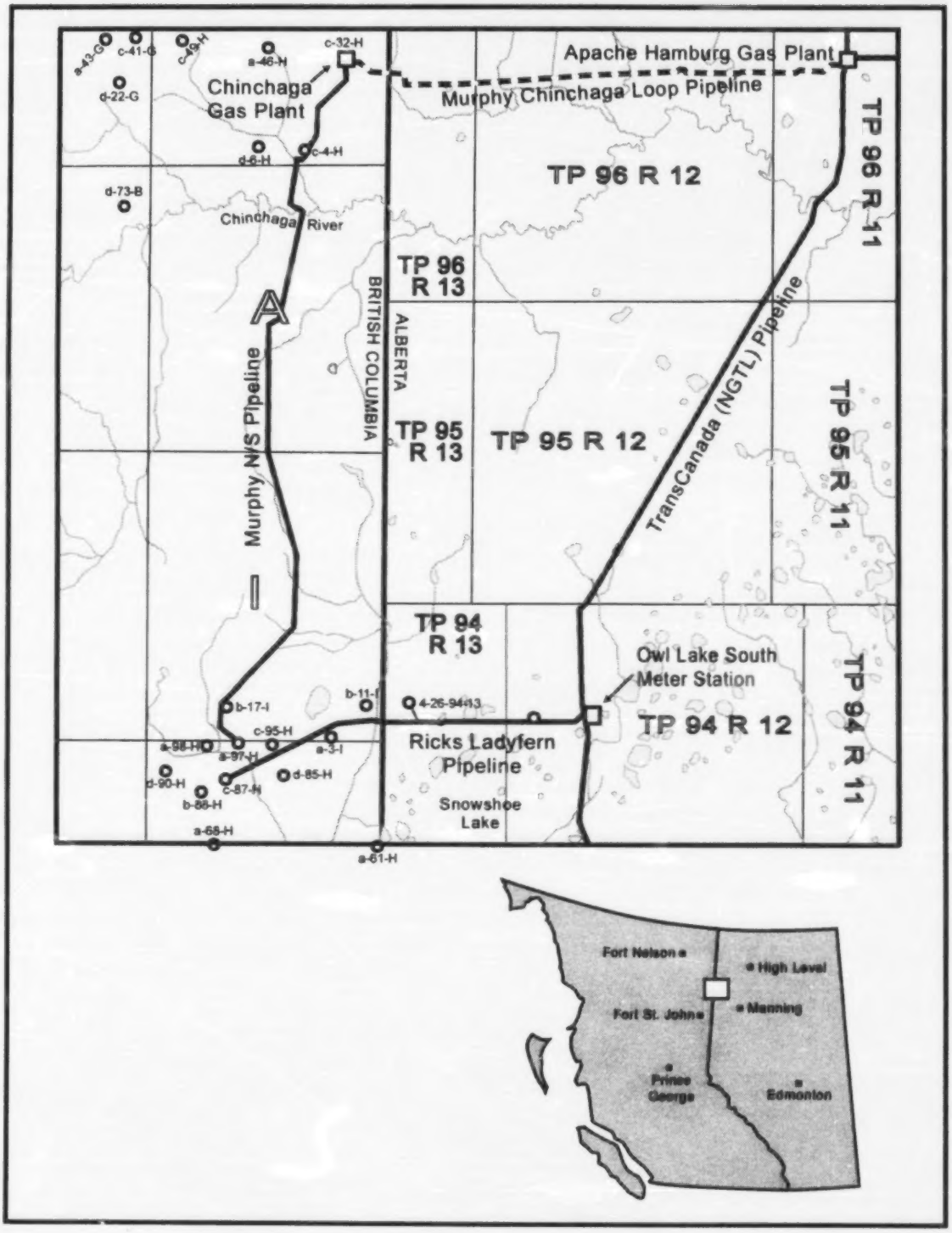
Murphy Oil Company Ltd. (Murphy) has applied to the National Energy Board (the Board) for approval to construct and operate a natural gas pipeline across the British Columbia/Alberta border, approximately 130 kilometres (km) north of Fort St. John, B.C. (the proposed Chinchaga Loop) (Figure 1). Approximately 1.5 km of the pipeline would be located in British Columbia (B.C.) with the remaining 15.7 km in Alberta.

The purpose of the proposed Chinchaga Loop is to provide additional capacity to Murphy's existing 219.1 mm (8 inch) Chinchaga Pipeline by way of a pipeline loop. The facilities requested by Murphy include approximately 17.2 km of 323.8 mm (12 inch) outside diameter pipeline originating at an existing Pioneer Natural Resources Canada Inc. (PNRC) Chinchaga Gas Plant in B.C. and terminating at the existing PNRC Hamburg Compressor Station in Alberta. The locations of the origin and terminus of the proposed project are c-32-H/94-H-8 in B.C. and 14-29-96-11 W6M in Alberta, respectively.

The existing pipeline corridor in which Murphy proposes to construct the Chinchaga Loop currently contains, for the eastern most 15 km, three Board-regulated pipelines including the Chinchaga Pipeline. For the western most 2 km, the corridor contains four existing and approved Board-regulated pipelines and one power line. The proposed project would be aligned directly adjacent to the north side of the existing rights-of-way.

The Board is a responsible authority under section 5 of the *Canadian Environmental Assessment Act* (CEAA) for the purposes of the proposed Chinchaga Loop.

Figure 1
Chinchaga Sales Gas Pipeline Loop



In order to obtain evidence and the views of interested parties in respect of the Application, the Board conducted an oral public hearing, pursuant to Hearing Order GH-1-2001 and the *National Energy Board Act*. The hearing was conducted from 15 February to 19 February 2001 in Calgary, Alberta. Based on Murphy's Application, subsequent submissions and the evidence adduced through the Board's proceeding, this environmental screening of the proposed project was completed, pursuant to the CEAA.

1.2 Project Description

1.2.1 Proposed Facilities

In addition to the applied-for 17.2 km of 12 inch pipeline, Murphy would construct and operate connection facilities at the origin and terminus of the pipeline, as well as pigging and cathodic protection facilities. Murphy stated that the cathodic protection system for the Chinchaga Loop would be connected to the existing system that consists of rectifiers and impressed current anode beds.

At the origin and terminus, Murphy would construct pipeline risers, pig sending and receiving stations, piping to a tie-in flange and isolation valves. Murphy stated that no equipment would be installed that would generate any substantial level of noise pollution and that emissions would not increase as a result of the proposed project.

Murphy stated that the natural gas transported by the Chinchaga Loop would contain 8 to 10 parts per million (ppm) H_2S and would be classified as non-sour service under CSA Z662-99. However, the pipeline would be designed and constructed for sour service up to 100 ppm H_2S. Murphy anticipates that, with the development of future reserves in the area, there may be potential for future tie-ins of sour gas to the Chinchaga Loop.

The proposed route would be entirely located on crown land in Alberta and B.C. Murphy stated that it would require a new 10 m wide new right-of-way directly adjacent to the north side of the existing pipeline corridor. Five watercourses, 2 existing pipelines, 2 underground or overhead cables and 7 private roads would require crossing. Murphy stated that it would construct the pipeline using conventional open trench construction methods. Murphy also stated that it would directionally drill one gentle slope to the west of Tanghe Creek and 3 of the 5 watercourse crossings. Murphy also indicated that, based on its previous experience and construction reports for other pipelines in the existing pipeline corridor, it did not anticipate encountering bedrock or the need for blasting.

Murphy stated that it would utilize the working space of the existing pipeline corridor as much as practicable and that, for the most part, additional work space would not be required. However, Murphy indicated that extra temporary work room would be required at watercourse crossings and stated that it had reached a verbal agreement with PNRC to use part of its adjacent right-of-way for temporary work room. Murphy stated that additional work room, for example due to inclement weather, would usually be less than 0.15 hectares[1] (ha) in size and that it would obtain all additional work room from the appropriate agency prior to use. Murphy stated that most of its required supplies and equipment would be delivered directly to the right-of-way.

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[1] Hectare - an area 100 m by 100 m in size, or 2.47 acres

Murphy mentioned all weather roads currently exist to access both the origin and terminus of the proposed route. These existing roads would be used for access and, as a result, no new access would be required. Murphy stated that, during operation, routine maintenance and surveillance would be conducted using existing access roads and helicopter. Murphy further stated that the proposed Chinchaga Loop would be pressure tested with a water/methanol mixture and that the test water would be hauled away by a licensed contractor.

Murphy stated that it would use two construction camps; an existing camp near the west end of the proposed route and the existing Hamburg Open Camp near the east end. During operation, personnel would be based out of the Hamburg Open Camp.

Murphy described its anticipated activities during operation of the proposed pipeline, including periodic surveillance of the right-of-way, by air or on the ground, and pigging activities. Murphy stated that its surveillance would likely occur on a monthly basis, be short in duration and that it would be coordinated with the surveillance of the adjacent Board-regulated pipelines.

For more project information, please refer to section 3, Scoping.

1.2.2 Decommissioning and Abandonment

Murphy stated that the expected lifespan of the pipeline would be 15 to 20 years, after which it could be deactivated, abandoned or salvaged. Murphy stated that, if the pipeline is deactivated, it would be pigged clean and filled with inert gas. If the pipeline were abandoned, all surface structures would be disconnected from the pipeline, and the line would be filled with air or inert gas, and sealed. Cathodic protection would not be maintained if the pipeline were abandoned. Salvage would entail the removal of the pipeline and associated facilities. Murphy stated that it would apply to the Board for approval for whichever option is determined to be appropriate at that time.

1.2.3 Schedule

Murphy has proposed to construct the facilities commencing in late February and with a target completion date of 15 March 2001. Recognizing the short time available between the GH-1-2001 proceeding and its proposed construction schedule, Murphy stated that it would use two construction spreads and work flexible or longer shifts in order to complete work as soon as possible. Murphy stated that it would ditch and backfill on the same day, and that the trench would likely not be open for longer than 24 hours. Murphy also stated that its clean-up crew would follow the backfilling crew and that clean-up was anticipated to be completed within 1 week of backfilling.

Murphy stated that, although it targeted 15 March 2001 as a completion date for work on the right-of-way, it noted that the Alberta Land and Forest Service (ALFS) has full authority to order the cessation of work any time before or after that date, based on its judgement of the operating conditions at that time. Murphy indicated that it would monitor weather conditions and environmental conditions and would consult with ALFS with respect to work after 15 March 2001. Murphy submitted that, with suitable winter conditions, it could continue to construct past the 15 March target date. Murphy stated that it would consult with the ALFS and the Board on a frequent basis near mid-March to discuss working conditions.

Murphy recognized that late winter conditions could necessitate a work shutdown before completion of the pipeline. Murphy submitted that such conditions would probably not occur so quickly as to result in stranded equipment and that, by careful monitoring of weather and work conditions (sections 5.4 and 5.10), it could schedule its construction activities and equipment movement to avoid this situation. However, Murphy indicated that if work were shut down before project completion, it would re-start construction after freeze-up in late 2001.

1.2.4 Route and Facilities Site Selection

Murphy considered alternative alignments for the construction of the proposed Chinchaga Loop. Currently, some of the gas from the Chinchaga and Ladyfern fields is processed at the well sites and at Murphy-owned facilities within the PNRC Chinchaga gas plant, then transported on the existing 8" Chinchaga Pipeline. Murphy indicated that, for a general alignment, it focused on the rights-of-way of the three existing Board-regulated pipelines on the basis that there are no other existing openings between c-32-H/94-H-8 (the origin) and the terminus of the proposed pipeline at 14-29-96-11 W6M (Figure 1). Given these constraints, Murphy established a two kilometre wide corridor centred on the shortest straight-line route between the endpoints, and which maximized use of existing disturbances.

In order to determine the preferred pipeline alignment within the two kilometre wide corridor, Murphy applied a variety of route selection criteria, which included both biophysical and land use criteria. The biophysical criteria included avoidance of sensitive fish and wildlife habitat and areas of high environmental sensitivity. These sensitive habitats included areas that would be susceptible to long-term disturbance from activities even after mitigation, such as moose licks and old growth forests. Other biophysical criteria included minimizing habitat alteration and minimizing access-related disturbances. Conflicts with existing and/or future land use would also be avoided. With application of these criteria, Murphy chose the proposed alignment directly adjacent to the north side of the existing rights-of-way. Murphy submitted that the most significant factors influencing the final route selection were as follows:

- maximizing use of previous disturbances and minimizing new clearing;
- using existing roads or trails for vehicular crossings of waterways;
- use of existing permanent and seasonal access, eliminating need for new access;
- maximizing use of existing above-ground facilities with existing permanent, all-weather access;
- minimizing terrain that would present construction difficulties (e.g. unstable slopes, minimum width creek crossings, avoidance of areas requiring long-term remedial work);
- potential for future system expansion; and
- minimizing length of pipe.

Views of the Board

The Board recognizes that Murphy considered several options to transport gas to the PNRC Hamburg compressor station, including the feasibility of using one of several existing pipelines. However, for the purposes of the CEAA assessment, and as identified in the scoping document provided by the Board on 15 February 2001 to federal authorities and all GH-1-2001 interested parties, the Board has evaluated the alternative means or methods of carrying out the applied-for project which are technically and economically feasible. This is consistent with the guidance offered in the Canadian Environmental Assessment Agency's Operational Policy Statement of October 1998, entitled, *Addressing "Need for", "Purpose of", "Alternatives to", and "Alternative Means", under the Canadian Environmental Assessment Act*.

The Board is of the view that the criteria utilized in selecting the applied-for facilities were appropriate. The Board notes that no feasible alternative means became evident based on the information before it, and as a result, the Board is of the view that, the requirement to consider alternative means as set out in the scope of the environmental assessment for this project, has been satisfied.

1.3 Description of the Environment

1.3.1 Natural Environment

The proposed Chinchaga Loop would be located in the Lower Boreal Cordilleran Ecoregion in an area characterized by relatively flat topography. The local area is dominated by flat, black spruce bogs, open bogs and poor fens (organic soils) with mixed wood forest stands on higher ground at river and creek crossings (clayey and loamy morainal and lacustrotill). A high water table and long, severe winters limit forest productivity.

Murphy indicated that the project area was in a region of discontinuous permafrost, but stated that no permafrost has been encountered during past construction projects in the immediate pipeline right-of-way. Murphy stated that the proposed pipeline route does not encounter areas of unstable slopes or uncertain terrain.

Murphy relied on vegetation studies previously conducted for adjacent pipelines and stated that no plant species of special status were recorded and that no old growth forest occurs in the vicinity of the proposed project.

The pipeline would cross 5 watercourses which lie within the Chinchaga River watershed, a sub-drainage of the Hay River watershed. Murphy submitted a fisheries survey previously conducted for an adjacent pipeline, which characterized the habitat and identified fish species (refer to section 5.3.2). Three of the five watercourses supported fisheries resources while the remaining two were reported to support extremely low fisheries values due to low flow, discontinuous stream channels and extensive beaver activity.

The proposed project would be located north of Alberta's Chinchaga Wildlands Park. Murphy submitted that the wildlife habitat in the project area will support low to moderate population densities with potential for high species diversity. However, Murphy identified 3 wildlife species listed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) that are known to occur, or could potentially occur, in the project area: woodland caribou, grizzly bear and wolverine. Further, within Alberta, the proposed pipeline would cross a Caribou Protected Area. Trumpeter Swan, listed as threatened under the *Alberta Wildlife Act*, is also known to occur in the project area. Murphy stated that its proposed route did not intersect, or run adjacent to, any suitable breeding or feeding habitat for this species.

Murphy stated that, in B.C., the proposed pipeline is not in any Committee on Resources and Environment or Northeast B.C. Protected Area Strategy Study area. In Alberta, the proposed pipeline would not be located on lands that have been considered for Special Places 2000 or identified by the provincial government as an Environmentally Sensitive Area.

More detailed descriptions of the existing environment may be found in Murphy's Application, subsequent submissions and in Section 5 of this Screening Report.

1.3.2 Cultural and Socio-Economic Environment

Murphy stated that the proposed project is located in an area with extensive oil and gas infrastructure and that no agriculture, mining or guiding activities occur near the area of the proposed pipeline. Murphy submitted that, based on information provided by ALFS at the present time and in the immediate project area, the timber resources are quite minimal. Therefore, forest resource extraction is not anticipated to happen in the near future in the immediate area of the project.

Murphy identified that the area is traditionally used by the Doig River First Nation. Traditional land use and recreational activities include trapping, hunting and fishing in the general area. The Doig River First Nation withdrew its application for intervenor status and did not participate in this proceeding.

Murphy filed a 1996 Archaeological Impact Assessment, conducted for a pipeline within the existing pipeline corridor, in support of its application. No historical sites were identified in British Columbia. In Alberta, a number of sites were observed by the consulting company, Heritage North, on and to the north and south of the existing right-of-way.

2.0 ROLE OF OTHER FEDERAL AGENCIES

On 22 November 2000, the Board initiated consultation in accordance with section 5 of the *Regulations Respecting the Coordination by Federal Authorities of Environmental Assessment Procedures and Requirements* (Federal Coordination Regulations) with respect to the proposed Chinchaga Loop. By letter dated 1 February 2001, the Canadian Coast Guard indicated that it is also a responsible authority for the proposed project (Table 1), with respect to the crossings of Lennard and Tanghe Creeks (see section 5.6).

Table 1: Summary of Government Involvement in the CEAA Process

Department	Responsible Authority	Specialist Department	No Involvement
Environment Canada		X	
Fisheries and Oceans Canada - Fisheries and Habitat Management		X	
Fisheries and Oceans Canada - Canadian Coast Guard	X		
Indian and Northern Affairs Canada			X
Natural Resources Canada		X	
Health Canada			X

Fisheries and Oceans Canada - Habitat Management Division (DFO-HMD) provided letters of comment dated 9 and 11 January 2001 and recommended several mitigative measures (sections 4.2 and 5.2.2). In its letters, DFO-HMD identified 10 specific mitigative measures. DFO-HMD stated that the proposed

project would not likely result in harmful alteration, disruption or destruction of fish habitat provided that the work was carried out as proposed by Murphy and that the mitigation measures were implemented. Murphy stated that it would implement all of DFO-HMD's recommended mitigative measures.

3.0 SCOPING

On 30 January 2001, the Board initiated a scoping exercise in accordance with section 8 of the Federal Coordination Regulations. The Board prepared a draft scope of the environmental assessment (the draft scope) and provided it to the federal departments listed in Table 1 for comment. Given that the hearing process had already begun under the *National Energy Board Act*, the Board also provided parties to GH-1-2001 with an opportunity to make comment on the draft scope.

The Board received comments from Mr. Morin, Murphy and the Western Canada Wilderness Committee with respect to scope. The Board, after considering these comments, and in exercising its discretion under section 15 of the CEAA, determined the scope of the environmental assessment, increasing the temporal boundary to the expected lifespan of the project rather than the two years proposed by Murphy. The Board issued this scope of the environmental assessment by letter dated 15 February 2001 (Attachment 1).

During the GH-1-2001 proceeding, Mr. Morin indicated that he did not agree with the scoping decision and, in argument, suggested that the Board has misconstrued its jurisdiction and erred in a manner similar to that which was impugned by the Federal Court of Appeal in its decision in *Minister of Fisheries and Oceans* v. *The Friends of the West Country Association*[2] (the Sunpine decision).

In that case the Court commented:

> "[I]t is apparent that the Coast Guard declined to consider matters that were outside the defined scope of the projects and that were outside federal jurisdiction. In declining to consider matters outside the scope of the projects and outside federal jurisdiction, I think it misinterpreted paragraph 16(1)(a) and 16(3). It construed the boundaries of the exercise of its discretion more narrowly than those provisions permit and, therefore, declined to exercise the discretion conferred on it.
>
> Under paragraph 16(1)(a), the responsible authority is not limited to considering environmental effects solely within the scope of a project as defined in subsection 15(1). *Nor is it restricted to considering only environmental effects emanating from sources within federal jurisdiction.* ..." (emphasis added)

Views of the Board

The Board wishes to clarify that, in its view, it is not limited in its authority under the CEAA to consider only those projects that would fall within federal jurisdiction. In the specific circumstances of this application, in determining the scope of the project, the Board has determined that it would not be appropriate to expand the scope beyond those facilities which the Board has determined are within its jurisdiction. With respect to the assessment of cumulative effects, the Board has, as noted in the scoping

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2 [2000] 2 F.C. 263.

document (Attachment 1), further exercised its discretion to determine the temporal and spatial boundaries of the factors under subsection 16 (3) of the CEAA. The Board decided that the spatial boundaries for the consideration of cumulative environmental effects as described in Attachment 1, is appropriate in the circumstances.

Accordingly, the Board is of the view that the scope of the environmental assessment, as described in Attachment 1, is appropriate and has used it as the basis for this screening report.

4.0 CONSULTATION

Murphy carried out a consultation program which included advertisements in two different newspapers, *Alaska Highway News* (Fort St. John) and *The Banner Post* (Manning) and the distribution of consultation letters with an accompanying project schematic, based on an early public notification (EPN) list it had developed. Murphy submitted that an open house was not required due to the small size and remote location of the project and the fact that it would be constructed immediately adjacent to an existing right-of-way.

In addition, Murphy served notices pursuant to section 87 of the *National Energy Board Act* on potentially affected persons, including government departments, First Nations and trappers. Murphy exchanged information with these identified stakeholders to:

- identify stakeholder concerns and outline the preferred routing for the pipeline;
- help identify and mitigate concerns, if any, prior to construction;
- provide information regarding possible economic opportunities through employment and business operations; and
- create an understanding of Murphy's proposed project.

Murphy stated that it had re-contacted those on the EPN list who had expressed an interest in the project and that it had advertised in newspapers providing details regarding the increased widening of the right-of-way.

As part of its EPN, Murphy provided the identified interested persons with copies of its application, amendment and responses to the Board's Information Requests 1 to 4.

4.1 Other Government Agencies

Murphy provided the following provincial departments and agencies with the project contact names, addresses and telephone numbers, the project area maps depicting routing for the proposed pipeline, names of the consultants used for completing the requirements for this application and the project schedule:

- Alberta Community Development, Historical Sites and Services;
- Alberta Energy and Utilities Board;
- Alberta Environment;
- Alberta Department of Energy;
- British Columbia Ministry of Energy and Mines;
- British Columbia Oil and Gas Commission;
- British Columbia Ministry of Environment;
- British Columbia Ministry of Forests;

- British Columbia Ministry of Small Business, Tourism and Culture; and
- MLA Peace River.

4.2 Public/Interested Parties

4.2.1 First Nations

Murphy identified that Doig River and Dene Tha' First Nations claim traditional land use rights in the project area and provided these First Nations as well as the North Peace Tribal Council and Treaty 8 with EPN letters and project schematics. Murphy also served them with the *National Energy Board Act* section 87 notices. Murphy conducted a project presentation, a consultation meeting and follow-up telephone calls with the two First Nations.

Through a number of telephone conversations with the Dene Tha', Murphy determined that the Doig River First Nation were the traditional land users in the immediate area of the project. It was agreed that if any Dene Tha' band members had any concerns in the future, the Dene Tha' would notify Murphy.

Murphy stated that it met with members of the Doig River First Nation in October and November 2000, who expressed concerns related to employment and financial opportunities and sought assurance that hunting rights would not to be infringed. Murphy stated that there are no guides or outfitters and no residents in the immediate project area.

On 23 January 2001, the Doig River First Nation requested intervenor status in the GH-1-2001 proceeding. Subsequent to the granting of this request, the Doig River First Nation, by letter dated 12 February 2001, withdrew its intervention of the Chinchaga Loop application.

In its application, Murphy indicated its intention to "continue to consult with both First Nations, to ensure appropriate consultations continue". During the GH-1-2001 hearing, Murphy acknowledged that as an active proponent and ongoing developer of oil and gas resources in that area, it is incumbent on Murphy to continue to build upon the relationship that it has with First Nations. It further stated that the process has continued over the last couple of weeks and is ongoing. Murphy stated that if requested, it would submit progress reports regarding its consultation with First Nation people.

4.2.2 Registered Trappers

In its application, Murphy identified three traplines registered to four trappers. Two registered trappers were identified in each of the provinces of B.C. and Alberta.

Murphy submitted that no trap sets, main or line cabins were found for the trapline in British Columbia. Murphy noted that trapline infrastructure was in place in Alberta and that over the past three winter seasons, Murphy had not observed any active trapping in the area of the proposed project. Murphy stated if there was active trapping in the area, that winter construction could conflict with that trapping.

In November 2000, Murphy served the registered trappers with the *National Energy Board Act* section 87 notices. Of the four trappers, two trappers requested intervenor status in the proceeding. Subsequently, Murphy also sent letters to the trappers asking them to flag or remove their traps if any are near the proposed project to prevent disruption, for safety purposes and to prevent damage. In the letters, Murphy stated that it would compensate the trappers for the inconvenience of moving their traps. Murphy also stated that it would provide the trappers with compensation through the Trappers Compensation Board.

4.2.3 Mr. Morin

In his letter dated 15 January 2001, Mr. Morin filed a request for intervenor status in the GH-1-2001 proceeding. Based on his letters and his evidence presented at the hearing, Mr. Morin's concerns include:

- the cumulative effects of the oil and gas activities on wildlife (furbearers, caribou, moose, birds);
- isolation of traplines and traps, which impact his trapline operation, due to pipeline construction and reclamation;
- compensation related to the vandalism of his buildings and equipment;
- noise and emissions;
- damage to the roads;
- environmental effects of construction after spring break-up; and
- increased access and traffic to the area.

For additional information regarding Mr. Morin's concerns, refer to sections 5.7, Wildlife and 5.9, Traditional Use.

4.2.4 Ms. Rothlisberger

In a 18 January 2001 letter to the Board, the North East Aboriginal Trappers Society (NEAT) requested intervenor status on behalf of NEAT and Ms. Rothlisberger and her mother Ms. Sally Makahaday, an Elder, who share the treaty trapline title on the British Columbia side of the proposed project.

Murphy advised the Board that it had, by telephone on 23 January 2001, contacted Ms. Rothlisberger enquiring if she had any concerns or objections with the pipeline. She indicated that the existing pipelines do not interfere with her trapping and that she did not have any objections to the proposed pipeline if Murphy was not constructing any new access roads.

Refer to section 5.9, Traditional Use for additional information regarding Ms. Rothlisberger's and Ms. Makahaday's concerns.

4.2.5 North East Aboriginal Trappers Society

In a 18 January 2001 letter to the National Energy Board, NEAT requested intervenor status. NEAT is an organization of approximately 200 aboriginal trappers, registered in British Columbia, whose goal is to protect the traditional interests of members in north eastern British Columbia.

At the hearing, NEAT was represented by Go Tseeh Cho, whose registered name is Mr. Richard Jimmy Behn, who identified himself as a co-ordinator of NEAT. Mr. Behn's concerns at the hearing related to the nature of the consultation with aboriginal trappers by Murphy in the context of the pipeline application. He also raised health and environmental concerns. Refer to section 5.9 - Traditional Use for additional information regarding Mr. Behn's concerns.

4.2.6 Alberta Wilderness Association

The Alberta Wilderness Association submitted a letter of comment dated 29 January 2001. The Alberta Wilderness Association stated that the proposed route would cross the Chinchaga Caribou Range Environmentally Sensitive Area (ESA) and would produce further fragmentation of this range by creating new disturbance and widening present linear disturbances. It also stated that, it would like to see no net increase in disturbance in this area at the least and ideally no development. Further, it stated that it wishes to see creative proposals to physically rehabilitate other disturbances in the area to ensure no net increase [in disturbance]. Finally, it stated that there should be no new permanent access to the area.

4.2.7 Western Canada Wilderness Committee

By letter dated 7 February 2001, the Western Canada Wilderness Committee (WCWC) expressed concern with respect to the potential effects on woodland caribou. The WCWC stated that woodland caribou habitats in the Chinchaga area are becoming increasingly destroyed by habitat fragmentation and linear disturbances caused by massive onslaught of oil and gas activities in the Chinchaga. The WCWC submitted that the predator-prey relationship between wolves and caribou has been altered by roads and other linear disturbances associated with energy and forest developments in caribou habitats. Finally, the WCWC submitted that it is important to consider the cumulative effects of all of the oil and gas activities in the Chinchaga area (B.C. and Alberta), not just the proposed project in isolation.

5.0 ENVIRONMENTAL ASSESSMENT

5.1 Environmental Assessment Process and Procedures

As part of its application, Murphy submitted an environmental assessment which contained an assessment of the environmental and directly-related socio-economic effects which could result from the construction, operation and decommissioning/abandonment of the project. Those effects, and the effects of accidents and malfunctions, and cumulative effects were presented in its assessment, subsequent submissions, in its responses to information requests and during the GH-1-2001 proceeding established under the *National Energy Board Act* to consider Murphy's application. Any additional modifications or decommissioning/abandonment activities would create the potential for environmental effects similar to those addressed below, and would be subject to future examination under the *National Energy Board Act* and, consequently, under the CEAA.

This section of the Screening Report summarizes the main issues identified for the proposed Chinchaga Loop. Other issues, as identified in the scope of the environmental assessment (see section 3 and Attachment 1) were addressed by Murphy in its Application, subsequent submissions and the GH-1-2001 proceeding, and are addressed in Attachment 2.

5.2 General Mitigation Measures

Murphy described its proposed mitigative measures in its Application, subsequent submissions and during the GH-1-2001 proceeding, including its Environmental Protection Plan (EPP). These mitigative measures are summarized in Attachment 2.

Murphy also stated that it would retain two environmental inspectors during construction, one for each construction spread (see section 5.10). Murphy stated that it would adhere to the recommendations of its

consultants, inspectors and monitors and that the environmental inspectors would have the authority to ensure compliance with the terms and condition of any Order issued by the Board (see section 7.1).

5.3 Abandonment and Decommissioning

As outlined in section 1.2.2, Murphy stated that, if the pipeline is deactivated, it would be cleaned and filled with inert gas. If the pipeline were abandoned, all surface structures would be disconnected from the pipeline, it would be filled with air or inert gas, and sealed. Should the pipeline be salvaged, the potential environmental effects would be similar to those expected during the construction phase.

It should be noted that any additional modifications or decommissioning/abandonment activities would be subject to future examination under the *National Energy Board Act* and consequently under the CEAA, as appropriate.

5.4 Timing of Break-up

Timing of break-up, or spring melt, is discussed in this section. Timing, as it relates to specific environmental issues, is discussed in the sections below. Both Murphy and Mr. Morin expressed views with respect to late winter construction and the timing of spring break-up, specifically the loss of ground frost. Both Murphy and Mr. Morin submitted that break-up does not typically occur before mid-March. Based on long experience in the Chinchaga area, Mr. Morin was of the opinion that the weather, and therefore the timing of break-up, is extremely variable. He stated that he has observed break-up anytime between mid-March and the end of April. Mr. Morin agreed with Murphy (section 1.2.3) that, should break-up begin, Murphy would likely have adequate time to adapt its work schedule and remove its equipment.

Murphy stated that it is the preference of the ALFS that Murphy complete it winter construction activities by 15 March. Murphy further stated that the ALFS has the discretion to extend this date, depending on the nature of the operations and the weather conditions at the time. Murphy clarified that the ALFS has full authority to order a cessation of work anytime based on their judgement of the operating conditions at that time. Murphy stated that it would fully cooperate and communicate with ALFS during the construction of the pipeline.

Murphy outlined several mitigative measures that it would implement during late winter construction, including specific monitoring of working and environmental conditions, liaison and contact with ALFS and the Board and scheduling to move equipment and carry out construction activities at night if necessary.

5.5 Vegetation and Soils

Murphy estimated that 40% of its proposed route crossed vegetation communities on organic soils. With respect to new clearing, Murphy submitted that the existing bog and fen habitat, intermixed with forest, is one of the most common habitats in the boreal white and black spruce bioclimatic zone in B.C. Murphy noted that the use of a horizontal directional drill construction method at three of the five watercourse crossings would effectively avoid disturbance of the riparian and aquatic communities.

Murphy submitted that adverse effects to vegetation would be limited. Further, Murphy stated that grass-dominated communities would develop of the newly cleared areas. Murphy stated that clearing, salvage and grubbing would be extremely limited due to the limited amount of required clearing and the non-merchantable quality of the forest stands present along the proposed route. Murphy submitted that it had consulted with Alberta Environmental Protection and that salvage of merchantable timber may not be required.

Murphy submitted that the land affected by the proposed pipeline would be restored to pre-construction capability by the first year post-construction. Murphy also estimated that 50% coverage of native plant species would become re-established on the pipeline right-of-way within 2-3 years post-construction. Murphy stated that, pursuant to section 21 of the *Onshore Pipeline Regulations, 1999* (OPR 99) it would restore the right-of-way and any temporary work space to a condition similar to the surrounding environment and consistent with the current land use.

Murphy stated that it would develop its final seed mix in consultation with provincial agencies and that it would submit the final mixture to the Board. Murphy stated that it would initiate a revegetation program during reclamation and that its environmental inspector would determine the locations for re-seeding. Murphy submitted that 50% native species composition would occur on the right-of-way in 2-3 years post-construction and that revegetation along the existing right-of-way for other projects has been very successful. Murphy described its proposed measures to control the spread and development of weeds in its EPP.

In its Application and EPP, Murphy described specific construction practices and mitigation measures for topsoil and subsoil stripping and handling, erosion control and restoration for construction. As described in sections 1.2.3 and 5.4, Murphy would closely monitor late winter conditions with respect to ground-frost and would likely have adequate time to adapt its work schedule and remove its equipment if conditions warranted.

During operation, physical disturbance of vegetation would be limited to periodic vehicle traffic during surveillance and maintenance activities. As described in section 5.7, Murphy would design and implement an environmental protection program for use during operation, to anticipate, prevent, mitigate and manage conditions which have a potential to adversely affect the environment. Murphy stated that it would, on an annual basis during operation, monitor the right-of-way for weeds, revegetation success, potential erosion control and integrity of riparian zones.

Views of the Board

The Board notes that, in this case, the area that would be cleared is relatively small (17.2 ha), is not known to support unique vegetation communities or species of special status, and contains limited merchantable timber. The Board is satisfied that the right-of-way would be re-seeded and restored to a condition that would facilitate re-establishment of native species. The Board is satisfied with Murphy's proposed soil handling procedures and reclamation commitments.

5.6 Fish and Fish Habitat

Five watercourses are located along the proposed route, all designated as Class C waterbodies by the province of Alberta and with restricted activity periods of 16 April to 15 July. No watercourses are located along the proposed route in B.C. Potential adverse effects on fish and fish habitat include mortality, avoidance, changes to water quality and sedimentation of habitat.

Murphy proposes to construct the crossings of Tanghe Creek, Lennard Creek and an un-named tributary to Lennard Creek through the use of a horizontal directional drill (HDD) method. Murphy submitted that the use of the HDD construction method would avoid direct disturbance to the watercourses, banks and riparian habitat. Murphy stated that previous crossing of the creeks within the pipeline corridor were successful but that it would attempt the HDD crossings 5 times at each watercourse. If the attempts were unsuccessful, it would notify appropriate agencies, discuss alternatives and obtain the necessary permits and approvals. Murphy stated that the composition of the drilling mud would be bentonite and water with the possibility of the addition of a polymer, to reduce friction, if required. Further, Murphy stated

that the drill mud and fluids would be removed by truck and disposed of in an approved facility. Murphy also described its proposed mitigative measures in the event of an inadvertent return of drilling mud during drilling.

Murphy stated that the remaining two watercourses are intermittent and located in muskeg areas and those crossings would be constructed using conventional open trench methods. Murphy submitted that the fisheries values of these two watercourses were low and limited by low flow, discontinuous stream channels and extensive beaver activity. Murphy stated that it expects that these two watercourses would be frozen to the bottom at the time of construction. Murphy further stated that, if either watercourse contained flow at the time of construction, it would implement an isolated trench crossing procedure. Murphy also stated that it would install temporary bridge spans or construct snow and ice bridges across watercourses to permit vehicle and equipment passage.

Murphy submitted that its construction schedule would avoid the sensitive 16 April to 15 July period. Murphy submitted that its proposed watercourse crossing methods were the same as used previously during the 1996 and1998 construction of the other existing pipelines and provided geotechnical information for the crossing locations. Murphy stated that it would prepare a crossing plan for each watercourse outlining the proposed construction methods to meet Alberta's *Code of Practice for Pipelines and Telecommunications Lines Crossing a Water Body*.

Murphy stated that it would hydrostatically test its proposed pipeline with a mixture of water and methanol. Murphy stated that all testing fluids would be trucked back to the supplier for recycling. Murphy did not identify activities that, during operation, would have the potential to adversely affect fish and fish habitat.

Views of the Board

The Board notes that the use of a HDD construction method for the three larger watercourses would result in no interaction with fish and fish habitat and adverse effects would be effectively avoided. The Board also notes that Murphy committed to implementing DFO-HMD's 10 recommended mitigative measures and included these measures in its EPP. The Board is of the view that construction of the remaining two watercourse crossings during frozen conditions or with the use of an isolated crossing technique would result in short term, localized and reversible effects and impacts on fisheries resources would be minimal.

5.7 Wildlife

This section is divided into subsections which address wildlife in general, furbearers and large carnivores, and ungulates. The views of the Board are presented at the end of the entire section.

5.7.1 Wildlife in General

Murphy

Murphy identified sensory (noise, visual) disturbance, habitat avoidance, interference with movement, habitat alteration and increased human access as potential impacts on wildlife. Murphy submitted that wildlife impacts related to disturbance would be short term and minimal and that, due to the proposed winter construction schedule, no disturbance would occur during the sensitive breeding period (i.e. May and June). Based on its observations (see below), Murphy submitted that many species of wildlife remain active during construction activities and that displacement was minimal when surrounding habitat remains adequate.

Murphy stated that no increase in access would occur as existing winter and all-season roads would provide adequate access for construction and operation and no new right-of-way would be created. Further, Murphy stated that access to the area is managed by a caribou and wildlife specialist, that Murphy would ensure that the existing access gate stays in place and that it would further control access to the right-of-way. Murphy also stated that it would evaluate, with Alberta Environment and the B.C. Ministry of Environment, Lands and Parks (BC MELP), the use of slash rollback on portions of the right-of-way to discourage access development for snowmobile/all terrain vehicle users. Murphy stated it would monitor post-construction access management measures designed to minimize hunting pressure increases by either humans or carnivores in the area.

Murphy stated that, at the end of construction, the roach[3] would likely be 0.5 m high and 1 m wide, and would subside after ground thawing the first spring following construction. Murphy stated that it would undertake measures to reduce blockage of daily or seasonal wildlife movements, including limiting open ditch time, installing breaks in spoil, slash and snow piles and leaving sufficient breaks in the trench roach. Murphy submitted that, with small diameter pipe, wildlife could step over or under any strung pipe and that any obstruction to wildlife movement would be short term, localized and minimal. Murphy stated that backfilling would immediately follow pipe laying and that the trench would typically not be left open for more than 24 hours. Murphy stated that it would implement a worker awareness program regarding wildlife and that construction personnel would be required to report wildlife sightings on a daily basis to Murphy inspection staff.

Murphy stated that its proposed route did not intersect or lie adjacent to breeding habitat for trumpeter swans. Murphy's proposed HDD crossings of the three larger watercourses would maintain the aquatic and riparian habitat. Murphy submitted that, because it proposed to carry out winter construction, it would avoid disturbance of birds during the nesting season.

During operation, periodic surveillance could disturb wildlife in the vicinity of the right–of-way. Murphy indicated that this disturbance would be short in duration and would be coordinated with surveillance needs of the adjacent pipelines.

Murphy referenced three Wildlife Observation Reports (the Wildlife Reports) in its application and filed these reports with the Board. Murphy indicated that the study area for the reports covered the western two thirds of its proposed route and that it relied upon the observational information in the reports to support its application. Murphy stated that its comments in the wildlife reports with respect to habitat suitability and home range size for various furbearers were based upon personal observations and scientific literature but acknowledged that it did not quantify the habitat, on a species by species basis or in general, for its study area. It also indicated that the reports could not provide rigorous information with respect to avoidance, wildlife behaviour, population status or density, but were appropriate as a record of its observations in the project area between 1998 and 2000.

Mr. Morin

Mr. Morin provided comments on wildlife species and wildlife trends he had observed over the years during which he has held the trapping rights in the Chinchaga area. Mr. Morin stated that he had a 138 km (85 mile) trapline with several cabins. Mr. Morin stated that he had spent many months per year on his trapline, and that he ran the line every 2 days by dog team or snow machine. Mr. Morin stated that the existing pipeline corridor and the proposed pipeline route lie within his trapline area and cross his

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3 Roach - a raised crown of material over the trench line left at the end of backfilling, left in order to accommodate soil settlement that occurs after ground thawing;

access to one of his cabins. Mr. Morin indicated that he has direct experience with clearing operations and has observed winter pipeline construction activities in the area.

Mr. Morin submitted that wildlife in the project area has changed its behaviour over the 35 years of his observations, becoming in some instances, more accustomed to activity. Mr. Morin submitted that it is necessary to have long term observational information in order to make conclusions with respect to trends in abundance or the current status of abundance. In his view, wildlife in the Chinchaga area is becoming less abundant and there is less undisturbed habitat available.

Mr. Morin stated that the proposed route is located along a migratory flyway for trumpeter and tundra swans, waterfowl and sandhill cranes. Mr. Morin also indicated that he had observed stress behaviour in birds when disturbed by low-flying aircraft similar to those which would be used by Murphy to monitor its right-of-way. With respect to post-construction conditions, Mr. Morin expressed concern with respect to the pipeline roach creating a potential barrier to caribou movement.

5.7.2 Furbearers and Large Carnivores

Furbearers

Murphy and Mr. Morin indicated that the project area supports numerous furbearer species, including lynx, marten, wolverine, fisher, weasel, hare, mink, wolf, beaver, muskrat and otter.

Based on personal observations during the winter 1998-2000, Murphy submitted that lynx, hare, wolf and weasel were abundant in the project area and tolerant of pipeline construction and related activities.

Murphy submitted that, while small territorial mammals, such as furbearers, may avoid a right-of-way during construction, those animals would not significantly shift their territorial distributions in response to those activities.

Murphy was of the opinion that this species may be experiencing impacts of sensory disturbance with resultant habitat alienation in the Chinchaga area in response to winter oil and gas development activities over the last 20 years. Murphy suggested that the most significant impacts to furbearers, including wolverine, as a result of oil and gas development would likely occur only in conjunction with trapping. Murphy stated that Ms. Sally Makahaday and Ms. Margaret Rothlisberger were not trapping on the B.C. side of the project area this year (winter 2000-2001).

Mr. Morin's observations and views, described in the previous section, also apply to furbearers. Further, Mr. Morin stated that there has been a sharp decline in wolverine and attributed the decline it to oil and gas activity. Mr. Morin also stated that lynx were at the peak of their abundance cycle in the year 2000. Mr. Morin stated that he had not trapped on the Alberta side of the project area since 1996.

Bears

Both black and grizzly bear occur in the project area. Murphy submitted that there was extremely limited potential for active bear dens to be disturbed during clearing activities. Murphy stated that it would contact provincial habitat biologists in the event that an active den were encountered. Murphy submitted that, following reclamation, wildlife such as bears would feed on the grass-dominated community that would establish on the right-of-way.

Mr. Morin indicated that he was not aware of any bear denning areas within the project area and that the project area, in his view, was grizzly bear habitat.

5.7.3 Ungulates

Murphy and Mr. Morin identified both moose and woodland caribou as being present in the project study area. Murphy stated that the project area provides optimum moose habitat and that its proposed route avoided areas optimum for moose calving.

Murphy stated that, west of Tanghe Creek, the proposed Chinchaga Loop is located within a Caribou Protected Area (approximately 80% of the route). Murphy submitted that woodland caribou select lichen-producing fens or bogs characterized by sparse stands of black spruce and estimated that 10-15% of the proposed right-of-way would represent high quality habitat. The majority of the right-of-way would represent moderate quality habitat.

Murphy filed with the Board the January 2001 Alberta Wildlife Status Report for woodland caribou[4] (Status Report). In addition to the information in the Status Report, Murphy submitted that its winter observations in the project area (Wildlife Reports) indicated that woodland caribou use the project area infrequently during the winter months. Further, Murphy submitted that, based on its own observations and in consultation with provincial wildlife specialists, the traditional winter range of the Chinchaga herd was primarily located to the south of the Chinchaga River, although woodland caribou this year (winter 200-2001) had been observed to the north of the study area.

Mr. Morin stated that woodland caribou use the whole Chinchaga River basin year round, especially south of the Chinchaga River and that they have two major migratory routes that cross the proposed route. Both Murphy and Mr. Morin indicated that the woodland caribou in the project area move around quite a bit.

Background

The Status Report describes woodland caribou distribution, population size and trends, limiting factors, management initiatives and research. Mr. Morin recognized that considerable professional time went into the preparation of the Status Report and that it is based on the most current research findings from Alberta. Mr. Morin suggested that the Board pay considerable attention to its findings.

The Status Report discusses difficulties in woodland caribou census techniques and describes past and ongoing efforts to estimate population size. The Status Report concluded that there are no accurate estimates of caribou population size in Alberta. However, the Status Report states that analyses for six study areas in northern Alberta suggest that caribou populations in most boreal ranges are declining and that further analyses are underway to understand factors that are influencing these trends. The Status Report also states that the long-term sustainability of caribou populations in Alberta is uncertain given the rapidly expanding human activities on and near caribou range.

The Status Report notes that woodland caribou are reported to calve between the first two weeks of May and the first week of June. The Status Report describes several factors which may be negatively affecting the rate of change of caribou populations, population dynamic or habitat suitability. These factors include predation, habitat loss and alteration, linear corridors, human activity, effects on predator ecology and weather and climate. Specifically and with respect to linear corridors and human activity, the Status Report describes potential effects associated with increased access by hunters, traffic-related

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[4] Dzus, E. 2001. Status of the Woodland Caribou (Rangifer tarandus caribou) in Alberta. Alberta Wildlife Status Report No. 30. Prepared by the Fisheries & Wildlife Management Division of Alberta Environment. Published by Alberta Environment and the Alberta Conservation Association. 47 pp.

mortality, sensory disturbance and avoidance. The Status Report states that predation, primarily by wolves, is recognized by most authorities as the most important natural cause of death in caribou populations, a concern raised by WCWC in its letter of comment (section 4.2.7).

The Status Report points out that an obvious step to minimize the direct and indirect effects of all types of industrial activities is to minimize the size, distribution, amount, standard and duration of linear corridors. The Status Report also states that seismic lines were not found to be barriers to caribou movements, while roads act as semi-permeable barriers throughout the year. The Status Report indicates that the density of linear corridors in the Chinchaga Range is higher than other ranges. The Status Report also states that the current extent of linear developments has reduced habitat effectiveness on 28% to 78% of the habitat of the major northern caribou ranges assessed.

The Status Report states, however, that while behavioural responses to industrial activity and increased risk of mortality associated with linear corridors have been shown for caribou, population level responses have yet to be conclusively demonstrated.

The Status Report suggests that, while current operating guidelines, such as Alberta Environmental Protection's "*Operating Guidelines for Industrial Activity in Caribou Ranges in Northwestern Alberta*" (Operating Guidelines) have been shown to be ineffective at conserving caribou and their habitat, they are interim in nature and a comprehensive revision of land use guidelines in northern Alberta was initiated in 1999. Further, the Status Report states that it is hoped that revised guidelines will incorporate knowledge gained since the inception of the provincial regional standing committees on woodland caribou.

Murphy

Murphy acknowledged that road kills by workers traveling to and from the pipeline spread would be possible and submitted that mortality on the right-of-way itself would be unlikely due to slow travel speeds. Murphy noted that it had proposed a relatively short construction period and that crews would be housed in existing camps close to the work site. Further, Murphy stated that it would enforce strict traffic regulations on winter access, monitor the speed of contractor and staff vehicles, and implement worker awareness programs.

Murphy submitted that, based on its observations of moose adjacent to various construction activities during the winters 1997-2000, moose were undisturbed by these activities. Further, based on its observations during overflights, Murphy submitted that moose were somewhat habituated to helicopter activity.

In its letter of comment dated 7 February 2001, the WCWC raised concerns with respect to potential changes in the predator-prey relationship between wolves and woodland caribou that could occur as a result of linear disturbances. Murphy submitted that, because the proposed project represented a 10 m widening of an existing corridor, no incremental effects of this nature would result.

Murphy submitted that because its proposed project would be a loop of an existing pipeline, no additional linear disturbance would occur. Further, Murphy submitted that, because the project would require widening of an existing pipeline corridor, it would not alter existing predator-prey relationships.

Murphy stated that it was prepared to abide by Alberta's Operating Guidelines and stated that it would use the same mitigative measures relating to caribou and caribou habitat for the B.C. portion of the project as for the Alberta portion. As required by the Operating Guidelines, Murphy prepared a Caribou Protection Plan and submitted it to the ALFS for approval. Murphy submitted the Caribou Protection

Plan and the ALFS letter of approval in support of its application. Murphy stated that revised guidelines are anticipated within a year.

Murphy stated that PNRC would be carrying out monitoring of the caribou herd between 1 December 2000 and mid-March 2001 and indicated that the ALFS would require that Murphy ensure that the existing access control gates are maintained.

Mr. Morin

With respect to the potential effects of the proposed project on woodland caribou, Mr. Morin indicated that they would be similar to the effects of other projects in the area over the years. Mr. Morin submitted that, due to the oil and gas activities in the Chinchaga area, the woodland caribou movement patterns have changed. Mr. Morin is of the view that construction activities, vehicle movements and helicopter flights during operation disturb the woodland caribou and he submitted that when they are disturbed, caribou move constantly and spend less time resting. Mr. Morin was of the view that, regardless of where work is conducted, it would affect the woodland caribou. He stated that it was especially important that woodland caribou should not be disturbed 2 months prior to calving and 2 months thereafter.

Mr. Morin expressed concern with respect to traffic mortality of moose and caribou and with potential increases in traffic during construction of the proposed project.

5.7.4 Views of the Board

Wildlife in General

In general, the Board is satisfied with Murphy's information and mitigative measures with respect to increased access, animal movements and worker awareness.

The Board has considered the wildlife observation reports with respect to their contribution to the overall understanding of wildlife occurrence in the vicinity of the project and Murphy's discussion and conclusions regarding potential effects on wildlife, as described in section 17 of its Application. The Board is of the view that the information in the reports is not supported by a study method that permits analysis for the purpose of reaching conclusions with respect to avoidance or displacement of the wildlife species referenced in the reports, particularly furbearers. Further, Murphy did not provide evidence from scientific literature with respect to these types of effects. Accordingly, the Board considers the evidence provided by Murphy with respect to wildlife in the Chinchaga area to be of value strictly as observations. Further, the Board recognizes Murphy's direct experience in the project area over several winters and with oil and gas related impacts and mitigation in the Chinchaga area.

The Board also recognizes the personal experience of Mr. Morin with respect to wildlife in the project area and the broader Chinchaga area. The Board found the information provided by Mr. Morin regarding wildlife, particularly the slides and photographs of the project area, helpful in understanding his views and concerns. The Board values, and considers valid, Mr. Morin's personal experience and observations of species presence, trends and general responses to human activities. The Board considers the evidence provided by Mr. Morin with respect to wildlife in the Chinchaga area also to be of value as observations.

Furbearers and Large Carnivores

The Board recognizes that, due to the limited geographic extent of the proposed project, the primary potential adverse project-related effect on furbearers and large carnivores may be associated with noise

from construction equipment and traffic, and increased access. The Board notes that the alignment of the proposed route is adjacent to an existing corridor, construction would be relatively short in duration and occur outside of the sensitive reproductive period, no new access would be created, access during construction would be controlled and natural revegetation of the right-of-way would be encouraged.

Caribou

The Board recognizes that the proposed Chinchaga Loop would result in a 10 m widening of an existing 17.2 km long pipeline corridor and that the proposed construction schedule is relatively short.

The Board is of the view that the proposed project would not measurably change the status of linear development or the predator-prey relationship in the project area. Further, the Board is of the view that the proposed short construction period would minimize sensory disturbance and that, during operation, disturbance related to surveillance would be extremely short in duration and minimized to the extent possible. In establishing its views, the Board considered that, in its project planning, Murphy has followed the Operating Guidelines currently in use and specifically developed to address industrial activity in caribou ranges.

The Board notes the Status Report's discussion of minimizing the size, distribution, amount, standard and duration of linear corridors to reduce impacts on caribou. The Board is of the view that Murphy has, to the extent possible, achieved this objective through its project siting, scheduling and overall planning. Further, the Board is of the view that Murphy's proposed measures to mitigate potential road mortality are adequate.

The Board recognizes the general sensitivity of woodland caribou during the late winter and, specifically, ALFS's recommended mid-March completion date and Mr. Morin's concerns with respect to sensitivity of caribou to disturbance within 2 months of calving. The Board notes that Murphy intends to complete the majority of its construction activities on the right-of-way by mid-March and that this schedule reflects Murphy's commitments as stated in its approved Caribou Protection Plan.

The Board also recognizes that, after mid-March, several variables can affect the magnitude of the effect of construction on woodland caribou. These include the nature of the work to be completed (e.g. location, equipment, duration), the distribution of caribou in relation to the project at that time, weather conditions (e.g. snow depth) and condition of the animals. Therefore, the Board is of the view that, under certain circumstances, continuation of late winter construction past 15 March would not change the nature and magnitude of adverse effects on woodland caribou and may be acceptable.

The Board notes Murphy's commitments to consult with the ALFS and ALFS's authority with respect to ordering a cessation of work. However, pursuant to subsection 20(2) of the CEAA, and pursuant to the *National Energy Board Act*, the Board has the responsibility to ensure that mitigative measures are implemented. Accordingly, the Board is of the view that it must determine, at the time and on the basis of appropriate information, whether, in this case, construction should continue past 15 March. The Board recognizes that, should the Board or the ALFS order Murphy to cease construction before completion of the proposed project, it would be re-started after freeze-up conditions in early winter 2001. The Board is of the view that Murphy's ongoing monitoring of winter conditions would permit appropriate removal of equipment and materials and implementation of erosion control measures and would minimize impacts on woodland caribou.

Therefore, the Board, in any Order that may be issued for the proposed project, would include a condition that Murphy could not carry out construction, clean-up or reclamation activities between 15 March and fall freeze-up conditions (section 7.1). The Board notes that it has the authority to ensure compliance with this condition. Accordingly, the Board is of the view that the implementation of Murphy's proposed mitigative measures and this condition would be effective in minimizing adverse environmental effects on woodland caribou.

The Board expects that, should Murphy wish to construct past 15 March, it would, in a timely manner, provide the Board with the appropriate information upon which the Board could determine whether further construction activities would be acceptable. The Board is of the view that certain information, such as the condition and sensitivity of caribou near the project, must be determined by a person with recognized expertise in woodland caribou. The Board would carefully consider the quality of the information that Murphy submits with such a request.

5.8 Cultural and Heritage Resources

Murphy submitted that the previous cultural and heritage resources work filed in support of its application was sufficient for its proposed project. Murphy filed copies of letters from both responsible provincial departments, the Alberta Community Development (ACD) and the B.C. Ministry of Small Business, Tourism and Culture (MSBTC), indicating that further work would not be required and that the proposed mitigation of potential sites was acceptable. These letters were based on Murphy's 30 October 2000 project application and did not fully consider the additional 10 metre right-of-way width for this proposed project. Murphy conducted additional consultation with the previously-mentioned parties in November 2000. ACD stated that, pursuant to section 27 of the *Historical Resources Act*, should any archeological resources, palaeontological resources, and/or historic sites be encountered during construction and/or reclamation activities, Murphy was to contact the department for their issuing of further instructions regarding the documentation of these resources.

Murphy stated that during construction it would protect known sites during construction through fencing or avoidance. Murphy further stated that, if any unanticipated archeological remains were discovered during construction, ground disturbance within the proximity of the site would be halted, the site examined by a qualified archaeologist and consultations would be carried out with the appropriate representative from the First Nations. Murphy further stated that work in that area would only proceed once the MSBTC and ACD granted permission to do so.

Views of the Board

The Board notes Murphy's consultations with First Nations and provincial agencies in the development of its mitigative measures. The Board also notes that, should cultural or heritage resources be encountered during construction, appropriate work stoppage, notification and mitigative measures would be implemented by Murphy.

The Board is of the view that, provided Murphy's proposed mitigation measures are implemented, significant adverse effects on cultural or heritage resources are unlikely to occur.

5.9 Traditional Use

In its application, Murphy recognized and discussed several possible effects on traditional land use, such as loss of soil productivity, increased access, noise and visual effects. Murphy relied upon a 1996 traditional land use study completed in support of past applications dealing with the same pipeline corridor.

Murphy submitted that there would be limited potential adverse effects on local residents and natural resources that support economic activities, as a result of construction or operation of the proposed project.

5.9.1 Doig River First Nation

Based on telephone calls with the Dene-Tha' First Nation, Murphy concluded that the Doig River First Nation are the traditional land users in the area of the Pipeline Loop. Murphy stated that it met with members of the Doig River First Nation in October and November 2000 and that there were no concerns expressed regarding the proposed pipeline, except financial opportunities.

In its application, Murphy submitted that the traditional land use activities of berry picking and medicinal food gathering do not occur in the project area. Trapping has occurred in the area in the past and hunting does occur in the general area. The operation of the proposed project will not result in infringement of these two traditional land uses.

Murphy stated that, in the past, the Doig River First Nation have expressed concern that hunting rights are not to be infringed. Murphy acknowledged that traditional land use areas are not mapped and are subject to change from time to time. In this regard, Murphy is committed to consult with both First Nations (Doig River and Dene-Tha').

5.9.2 Mr. Morin

During the GH-1-2001 proceeding, Mr. Morin stated that he has not engaged in trapping activities since 1996 but that he undertook a spring beaver hunt in 1997. Mr. Morin mentioned that while he was trapping during the winter of 1995-96, NOVA Transmission put in a 36-inch pipeline which crossed his trapline. Consequently, he had to abandon trapping that winter.

Mr. Morin stated that he has lived on this landscape in excess of 40 years. He has pursued a traditional lifestyle of trapping and thereby has acquired a great deal of knowledge. In final argument he added that he has seen his lifestyle slowly erode because of the ongoing activities of the oil and gas industry of which the applied-for project is only the latest in a long string of industry projects and, certainly, not the last.

Mr. Morin also expressed concerns regarding wildlife; these are referred to in section 5.7 Wildlife.

In an effort to mitigate trapper concerns, Murphy stated in its application that, if requested by the trappers, it will provide openings in any windrowed slash to allow access of furbearers. Murphy also committed to meet with the trapper if required. During the hearing, Murphy stated that it would compensate all affected local area trappers in accordance with the provisions set out by the Trappers Compensation Board.

5.9.3 Ms. Rothlisberger

Ms. Rothlisberger has a registered trapline which she shares with her mother Ms. Sally Makahaday, an Elder, and inherited this line from her grandfather. They applied for and were granted intervenor status in the GH-1-2001 proceeding, however, they did not participate at the hearing. Although they continue to trap on this line, Ms. Rothlisberger indicated that they would not be trapping this winter due to the mild conditions and her belief that the quality of the fur would be low.

In response to concerns raised by Ms. Rothlisberger regarding new road construction, Murphy confirmed that it was not constructing new access roads in relation to this project.

5.9.4 North East Aboriginal Trappers Society

During the hearing, NEAT, expressed concerns regarding consultation with aboriginal people in association with traditional land use. Mr. Behn referred to the Supreme Court of Canada decision in the *Delgamuukw v. British Columbia*[5] in1997, where, among other things, the Court discussed the obligation of the Crown to engage in meaningful consultation with aboriginal peoples in circumstances where there may be infringement on traditional use of the land by aboriginal peoples.

Mr. Behn suggested that family members with Aboriginal or Treaty rights on B.C. registered traplines must be contacted directly when development projects may impact on these rights. Alternately, the family may designate the Headman to speak for the interests of the extended family. He advised that others, such as the North Peace Tribal Council, or the Chief and Council of the Doig River First Nation, do not represent the interests of the aboriginal trappers in the area.

During the hearing, Mr. Behn identified health and environmental concerns in relation to traditional land use. In response to Mr. Behn's concern regarding public notification of a pipeline incident, Murphy stated that it will contact the individual families in the event of an emergency.

In response to Mr. Behn's concern regarding the contamination of the water supply, Murphy stated that it would not cross any watercourses in B.C.

Mr. Behn also raised concerns related to potential impacts on wildlife and fish. He noted that aboriginal people use wildlife, fish and plants for both personal consumption and economic activities. Any contamination of which they are not aware could cause severe health impacts and could have an adverse effect on the continued pursuit of their vocation on the land.

At the hearing, Murphy indicated that it intends to try and do a better job in the consultation process. Murphy recognized that it has a vested, long term interest in the Chinchaga area and, therefore, in building stronger relationships with First Nations. Murphy agreed to provide progress reports to the Board on their consultation processes if they were requested to do so by the Board.

Views of the Board

Traditional use of the land in the project area, has been primarily for trapping purposes and, based on evidence provided at the hearing, specific trapping activities will not be conducted in British Columbia and on Mr. Morin's trapline during the winter of 2000/2001. With the implementation of the proposed

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5 *Delgamuuk v. British Columbia*, [1997] 3 S.C.R 1010

mitigation measures, the Board is of the view that the project is not likely to result in significant adverse effects on the current use of land and resources for traditional purposes by aboriginal persons.

As identified in the 20 March 1998 ruling by the Board in reference to the Treaty 8 Tribal Association's question regarding the fiduciary obligations and constitutional duty of the Crown, there are inherent limitations to the role of a tribunal such as the National Energy Board in fulfilling the federal government's fiduciary responsibility towards aboriginal people. In the context of this application, the Provincial Crown is the authority with the obligation to consult on traditional land use issues. Four ministries within the Government of British Columbia did receive section 87 notification of the project.

With respect to NEAT's discussion of the *Delgamuukw v. British Columbia* decision and the question of fiduciary obligations, the Board notes that it has previously dealt with the matter in the context of another pipeline application[6].

5.10 Monitoring

Murphy stated that it would retain two environmental inspectors for construction of the pipeline, one for each construction spread. Murphy stated that the environmental inspector would have between 5 and 10 years experience and a thorough working knowledge of all applicable federal and provincial environmental and regulatory codes and standards. Murphy forwarded the name and qualifications of the inspector to the Board in support of its application.

Murphy stated that, during construction, field observations of wildlife would be recorded by the project environmental inspector and construction personnel. Murphy also stated that it would prepare a post-construction environmental report and file it with the Board within 6 months after completion of construction. This report would include information on the success of the HDD and restoration, clean-up and revegetation measures undertaken, as well as the success of the mitigative and protective measures included in Murphy's EPP.

Murphy further stated that it would evaluate, with AEP and the B.C. Ministry of Environment, Lands and Parks, the use of slash rollback on portions of the right-of-way to discourage access development for snowmobile/all terrain vehicle users. Murphy stated it would monitor post-construction access management measures to minimize hunting pressure increases by either humans or carnivores in the area.

Murphy further stated that, during operation, it would conduct regular maintenance and inspection of its facilities. Murphy stated that it would monitor the right-of-way on a monthly basis and that it would specifically monitor for erosion control and revegetation on an annual basis. Murphy stated that it would coordinate its right-of-way surveillance with that of the adjacent Board-regulated pipelines.

Views of the Board

The Board recognizes that Murphy stated that it would comply with OPR 99. Accordingly, should the proposed project be approved, Murphy would be required to develop a monitoring and surveillance program for the protection of the pipeline, the public and the environment, pursuant to section 39 of the OPR 99. In addition, section 48 of OPR 99 would require Murphy to develop and implement an

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6 Alliance Pipeline Project, GH-3-97, National Energy Board Reasons for Decision, November 1998

environmental protection program to anticipate, prevent, mitigate and manage conditions which have a potential to adversely affect the environment.

With respect to inspection to ensure compliance with environmental mitigative measures, the Board notes that, pursuant to section 44 of OPR 99, Murphy must have a qualified person inspect the construction to ensure that it meets the requirements of OPR 99 and complies with the terms and conditions of any Order issued by the Board (see section 7.1). Further, pursuant to section 53 of OPR 99, Murphy must conduct an audit and an inspection on a regular basis to ensure that the pipeline is constructed in compliance with OPR 99 and any terms and conditions of any Order issued by the Board as they related to the protection of the environment. The Board expects that Murphy would comply fully with these requirements of OPR 99.

In light of Murphy's commitments and the requirements of existing regulations, the Board is of the view that Murphy's proposed monitoring programs are acceptable.

5.11 Effects of the Environment on the Project

Murphy submitted that the effects of the environment on the proposed project would be negligible due to level terrain, proper design of watercourse crossings and the fact that the pipeline would be buried. Although Murphy indicated that permafrost had not been encountered on the right-of-way during previous construction activities, it did provide contingency measures should permafrost be encountered. Murphy indicated that construction of the crossings of the 3 watercourses with well defined channels using a HDD method would maintain bank stability. Further, Murphy stated that all watercourse crossings would be designed for pipeline placement below the 1 in 100 year bed scour depth to reduce the risk of pipeline exposure. Murphy also indicated that it would use the HDD construction method for a gentle slope to the west of Tanghe Creek.

Murphy also stated that during construction, surface runoff, erosion and ground water seepage would be controlled and that it would implement erosion control measures as required.

Murphy stated that it would design and construct the pipeline and associated facilities according to numerous specifications, including several CSA Standards, OPR 99 as well as other applicable local, provincial and federal codes and laws.

Murphy proposed to carry out construction during winter conditions on frozen soils. During late winter, weather conditions could result in thawing and loss of physical support for machinery. As discussed in sections 1.2.3 and 5.4, Murphy would closely monitor weather and environmental conditions during construction, and modify its activity schedule as necessary. For example, Murphy stated that it could move equipment and carry out construction activities at night, during colder weather conditions, as needed. As discussed in section 1.2.3, Murphy submitted that such conditions would not occur so quickly as to result in stranded equipment, and that if work was shutdown before project completion, it would re-start construction after freeze-up in late 2001.

During operation, Murphy stated that it would monitor the right-of-way on a monthly basis, as well as specifically monitor for erosion control and revegetation on an annual basis (section 5.10).

Views of the Board

The Board notes that there are no particular environmental conditions in the proposed project area that would likely lead to damage or failure of the pipeline and that Murphy would use HDD at specific locations to minimize disturbance. With respect to late winter construction, the Board is satisfied that, with monitoring of weather and environmental conditions as proposed by Murphy, the company would have adequate time to respond to physical conditions that could delay completion of its project until the winter of 2001-2002.

5.12 Accidents and Malfunctions

The most likely accident or malfunction to occur during construction of the proposed facilities is a spill of a hazardous material, including fuels or lubricants. Potential adverse environmental effects would vary with the toxicity, solubility and volume of material spilled but could include reduction of soil productivity, contamination of surface or groundwater resources or directly affect flora and fauna. Murphy outlined the spill response, clean-up and notification measures it would implement in the event of a spill of hazardous material. Murphy also committed to filing with the Board, its hazardous/waste material handling and spill response plans. Murphy described its proposed measures to contain drilling muds used during HDDs and indicated that its EPP would address the possibility of an inadvertent mud release.

During operation, the most hazardous accident or malfunction that could occur would be a release of natural gas containing H_2S. Murphy stated that the Chinchaga Loop would transport gas containing 8-10 ppm H_2S, but would be designed for up to 100 ppm H_2S. Modeling of an un-ignited rupture of the pipeline transporting gas containing 8-10 parts per million of hydrogen sulphide and operating at a maximum operating pressure of 9930 kPa was undertaken using GASCON2. GASCON2 was specifically developed for the Alberta Energy and Utilities Board to estimate downwind distance concentrations of hydrogen sulphide and sulphur dioxide. The results indicate that the National Ambient Air Quality Objective maximum tolerable, one hour average ground level concentration of 1400 micrograms per cubic metre would only be exceeded in close proximity to the rupture location. The submitted results further indicate the release would only last for 45 minutes and that within 30 minutes the ground level concentrations of hydrogen sulphide within 100 m of the rupture site would be within the National Ambient Air Quality Objective maximum acceptable ground level concentration of 15 micrograms per cubic metre.

Murphy stated that it would file with the Board a copy of its Emergency Response Plan (ERP) prior to operating the proposed pipeline. In its application, Murphy indicated that the ERP would be developed to include local fire, police, and disaster services departments and would contain the following information:

- classification of events that require an emergency response;
- pre-emergency planning;
- general safety precautions;
- general emergency procedures and emergency shut-down procedures;
- communication and coordination procedures between the company, authorities, and public officials;
- petroleum leak response guidelines; and
- other emergencies and technical data.

The ERP would also identify which workers and existing and future camps would be located within its predicted dispersion zone. Murphy stated that other than work camps, there are no other communities, towns or public facilities in the general area of the project. Murphy stated that there are abandoned trappers cabins located within 5-6 km of the proposed pipeline route but no other dwellings. Murphy stated that shutdown systems would also be in place should any upset conditions occur such as pipeline failure or overpressure. In the event of a dramatic loss in pressure, as would occur in the event of a rupture similar to that modeled by Murphy, the company indicated that these systems would likely shut the valves on the pipeline within a minute or less. Murphy also stated that it would comply with OPR 99, which, should the proposed project be approved, would require Murphy to develop and implement a pipeline control system and pipeline integrity management program.

Views of the Board

The Board notes that several factors, such as the limited geographic extent of the project, limited number of watercourses along the proposed alignment, maintenance of riparian vegetation where possible, and proposed winter construction on frozen soils, would serve to minimize the potential adverse environmental effects associated with accidental spills of hazardous materials. In the event of a spill, the procedures and mitigative measures described by Murphy would also ensure that clean-up is well coordinated; that the affected area is limited in size; and that any adverse environmental effects are temporary.

In its Application, Murphy stated that the pipeline will be constructed in accordance with sour gas specifications in order to transport potential sour gas in the future. However, Murphy presented its environmental assessment, including its rupture plume dispersion modeling based on non-sour gas operation, as defined by CSA Z662-99. However, the Board notes that Murphy designed the facilities for up to 100 ppm H_2S and that operation of the pipeline for such sour service is outside of the scope of this environmental assessment. Therefore, should Murphy's Application be approved, the Board would propose that any such approval include the following condition:

> *The Chinchaga Sales Gas Pipeline Loop shall be operated for the transmission of non-sour gas only, as defined in Clause 5.4 of Canadian Standard Association standard CSA Z662-99.*

While it is possible that a pipeline failure could occur, the potential effects of such a failure would be limited by several factors such as: the remote location of the proposed facilities, Murphy's proposed pipeline monitoring and shutdown controls, and that an ERP would be in place prior to operating the pipeline.

Should Murphy's application be approved the company must develop a monitoring and surveillance program for the protection of the pipeline, the public, and the environment as required by section 39 of OPR 99. Murphy would also be required to develop a pipeline integrity management program as per section 40 of OPR 99. Further, the Board notes that, pursuant to sections 32 to 35 of OPR 99, Murphy must develop, regularly review, implement and update as required, an Emergency Procedures Manual and program. The Board emphasizes that in addition to the list of information the company intends to include in its ERP, it is important that the Emergency Procedures Manual identifies any environmentally sensitive areas that would require special attention during an emergency.

The Board is satisfied with Murphy's proposed mitigation and emergency response procedures.

5.13 Cumulative Effects

The CEAA requires the consideration of "any cumulative environmental effects that are likely to result from the project in combination with other projects or activities that have been or will be carried out".

The Board, in its scope (section 3, Attachment 1), determined the scope of the factors to be assessed under subsection 16(3) of the CEAA and established temporal and specific geographic boundaries which in this case, the Board believed appropriate for the consideration of cumulative environmental effects. The Board decided to use a project-specific approach for this assessment as opposed to a regional approach. Further, the Board identified woodland caribou as an appropriate indicator, or Valued Ecosystem Component, for the consideration of the cumulative effects associated with the Chinchaga Loop.

Murphy stated that its approach to cumulative effects assessment was focused on land and sensory disturbance and compliance with current guidelines and practices. Murphy first characterized the features of its proposed project relevant to its approach: an incremental widening of an existing corridor, relatively short in length (17.2 km), all weather access to both ends, existing facilities at both ends, and the extensive environmental protection requirements for the project. Murphy then identified several past, current and future projects within the study area, and stated that future projects, particularly those involving the industries of oil and gas, are expected to be numerous. Murphy stated that it did not quantify information used in the cumulative effects assessment, however, the company was of the view that, in the circumstances, there is no requirement under CEAA to conduct a quantitative assessment of effects. Murphy further submitted that the level of detail of information required should correspond to the nature and magnitude of the project and anticipated environmental impact of the project. Murphy argued that its proposed project was small in scale and the construction impacts would be short in duration. Further, after the implementation of its proposed mitigative measures, the lands affected by the proposed pipeline would be restored to pre-construction capability by the first year after construction. Murphy submitted that its views on the residual effects after mitigation of the proposed project were based on first hand experience with the other pipelines in the existing corridor.

Mr. Morin argued that the Board has the onus and duty to ensure it has the information required to make a good reasoned decision and that the information before the Board is not of sufficient quantity or quality to enable it to consider the environmental effects of this project, and more specifically, the cumulative environmental effects. He also argued that the Board's duty to consider environmental impacts and cumulative effects is the same whether a project is subject to a screening, a comprehensive study or a panel review and that the factors to be studied in section 16(1) of the CEAA are the same for all projects. Mr. Morin indicated that, in his view, consideration of all past, current, and future projects was required to conduct an assessment of cumulative effects. He submitted that Murphy did not do this. Mr. Morin indicated that, without an accurate characterization of the existing environment and a thorough knowledge of the habitat and requirements of caribou, conduct of a meaningful cumulative effects assessment was not possible. It was his submission that the fact that he has not been able to trap since the mid-1990's is evidence that past projects in the area have already had a negative effect on the environment. He asserted that this is evidence that this project will add incrementally to the existing negative effects. However, Mr. Morin did not describe what, in his view, would be the incremental effect of the proposed project in combination with other projects and activities. Further, Mr. Morin described some of the difficulties in determining effects on caribou and submitted that "there would a lot of effects from this pipeline".

Views of the Board

The Board recognizes the differences in opinion between Mr. Morin and Murphy with respect to methods. The Board is aware that the Federal Court of Appeal has recognized that "reasonable people can and do disagree about the adequacy and completeness of evidence which forecasts future results and about the significance of such results without raising questions of law"[7].

The Board notes Mr. Morin's submissions with respect to the past and current level of oil and gas activities in the Chinchaga area and the state of the environment. As outlined in its 15 February 2001 letter, the Board is of the view that it is reasonable to consider that the current state of the environment would reflect the cumulative effects of past and present projects and activities. Murphy clearly stated that the project is located in an area of extensive oil and gas infrastructure. Further, the Board recognizes that the Status Report clearly identifies that the current distribution, intensity, amount and type of human activity on and near caribou range, is compromising the 'integrity' of caribou habitat, and that populations in Alberta are declining (section 5.7.3). The Board is satisfied that the evidence appropriately describes the state of the existing environment in the project area relevant to woodland caribou.

In assessing cumulative effects, the Board examined the characteristics of the proposed project, as described by Murphy above, as well as the nature of its potential effects on woodland caribou (section 5.7). The Board notes that construction would be of short duration and is of the view that the proposed project would not measurably change the status of linear development or the predator-prey relationship in the project area. The Board recognizes that Murphy has complied with Alberta's current Operating Guidelines and that cumulative effects thresholds have not yet been developed for woodland caribou in Alberta.

The Board considered whether the level of information suggested by Mr. Morin would be required to consider the potential cumulative effects of the proposed project in combination with other projects and activities. Given the context of the project-specific approach, the Board also considered whether adequate information was available on which to assess whether the proposed project would cause a significant incremental effect on woodland caribou. Further, the Board considered the information adduced through the Board's hearing, and submissions made during the GH-1-2001 proceeding with respect to the status of woodland caribou in Alberta and those factors that could affect population dynamics or habitat suitability.

The Board is of the view that, in this case, adequate information has been provided with respect to the existing environment, status and sensitivity of woodland caribou, and the nature of the project effects to reasonably consider cumulative effects. Based on the facts, the Board is of the view that, in this case, the environmental effects of the proposed project, in combination with other projects that have been or will be carried out, would not cause a significant incremental change in woodland caribou population dynamics or habitat suitability.

6.0 LAND MATTERS

Murphy stated that all facilities would be located on crown lands and would acquire all necessary land rights. Murphy submitted that any impediment to current land use would be negligible once the pipeline right-of-way was reclaimed.

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7 Alberta Wilderness Assn. v. Express Pipelines Ltd., [1996] F.C.J. 1016.

7.0 THE BOARD'S CONCLUSION

The Board has examined the environmental information provided by Murphy, and as required by subsection 16(1) of CEAA, has considered the following factors:

(a) the environmental effects of the proposed project, including the environmental effects of malfunctions or accidents that may occur and any cumulative environmental effects that are likely to result from the project in combination with other projects or activities that have been or will be carried out;

(b) alternative means of carrying out the project that are technically and economically feasible;

(c) inspection and monitoring;

(d) the significance of the effects referred to in (a) and (b);

(e) comments from the public; and

(f) measures that are technically and economically feasible and that would mitigate any significant adverse environmental effects of the project.

Having considered all of the evidence and information within the scope of the environmental assessment and relevant to the factors that were to be considered (Attachment 1), the Board is of the view that, with the implementation of Murphy's proposed mitigative measures and subject to the following conditions, the project is not likely to cause significant adverse environmental effects.

7.1 Proposed Order Conditions

Should Murphy's application be approved, the Board would include the following conditions:

1. The Chinchaga Sales Gas Pipeline Loop shall be operated for the transmission of non-sour gas only, as defined in Clause 5.4 of Canadian Standard Association standard CSA Z662-99.

2. Murphy shall implement or cause to be implemented all of the policies, practices, and procedures for the protection of the environment included in or referred to in its Application or otherwise adduced in evidence before the Board in the GH-1-2001 Proceeding.

3. Murphy shall file with the Board for approval, prior to the commencement of clearing or other construction activities, an updated Environmental Protection Plan.

4. Murphy shall develop an audit program for the protection of property, the environment, and the safety of the public and company employees pursuant to section 53 of the *Onshore Pipeline Regulations, 1999*. Murphy shall file the audit program with the Board prior to the commencement of clearing or other construction activities.

5. Unless the Board otherwise directs, Murphy shall not carry out construction, clean-up or reclamation activities between 15 March and fall freeze-up.

8.1 Public Comment

Mr. Morin requested that the screening report, in this instance, be made available for public comment for a period of five days.

Views of the Board

The Board has considered Mr. Morin's request and, in the context of the Board's CEAA obligations, has considered the comments of other parties on this matter.

The Board does not agree with Mr. Morin that the Board has an obligation to provide an opportunity for comment on this screening report at this time and in these circumstances.

Under the CEAA, there are three types of assessments that may be conducted: an environmental screening, a comprehensive study, and a panel review, depending upon the nature of the project, the level of public concern and the potential environmental effects associated with the project. In this case, the applied-for project is subject to a screening. In most cases, a screening report is prepared internally by the Board without involving or with very limited public input. In this case, for ease of administration and to avoid duplication, the Board has conducted the CEAA assessment in conjunction with the hearing process already established by the Board under the *National Energy Board Act*. For this reason, the public has had notice of and the opportunity to provide input in the screening process. Through the Board's own processes under the *National Energy Board Act*, members of the public were given notice of the proceeding and extended an opportunity to intervene and become a party to the proceeding or to simply file letters of comment. Parties have had the opportunity to question documents on the record including the public registry and to cross-examine the applicant's witnesses, file evidence and be cross-examined on evidence of their own. As well, parties have had an opportunity to present argument. The Board would also note that the proceeding was delayed by a period of two weeks to allow parties a further opportunity to prepare and provide input.

The Board has, therefore, through its public hearing process held pursuant to the *National Energy Board Act*, extended to the public an opportunity to comment on and participate in the GH-1-2001 proceeding to address all relevant issues, including environmental matters. In this case, this also included matters concerning the environmental assessment of the project. The Board considers that the public has thereby had ample notice of, and opportunity for input in, the Board's CEAA determination process.

With respect to the scoping process under CEAA, the Board, on 30 January 2001, in order to meet its requirements under the Federal Coordination Regulations under the CEAA and to ensure that appropriate issues were addressed in the environmental assessment, invited input from federal authorities on a draft scope of the environmental assessment for the Chinchaga Loop. Given that a hearing process had already been initiated to consider Murphy's application under the *National Energy Board Act*, the Board also extended to registered GH-1-2001 intervenors an opportunity to comment on the scope of the environmental assessment before the commencement of the hearing. In the exercise of its discretion as a responsible authority under the CEAA, the Board, after considering the comments received on the draft scope, released a scoping decision at the commencement of the hearing on 15 February 2001.

The Board does not consider that subsection 18(3) of the CEAA has been engaged in these circumstances. While there may be instances where the Board may wish to exercise its discretion under subsection 18(3) of the CEAA, this is not such a circumstance. Should this section apply, however, the Board is satisfied, on the basis of the above discussion, that the requirements of that provision have been met even if the screening report is not released for further public comment. The Board considers that it has, in this situation, met the spirit, intent and any requirements of the CEAA in this regard.

8.2 CEAA Determination

The Board is of the view that, taking into account the implementation of Murphy's proposed mitigative measures, and those set out in the above-noted conditions, the proposed project is not likely to cause significant adverse environmental effects. This represents a decision pursuant to paragraph 20(1)(a) of the CEAA.

9.0 DECISION

The Environmental Screening Report and the CEAA Determination were approved by the Board on 22 February 2001.

10.0 DEPARTMENTAL / AGENCY CONTACT

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